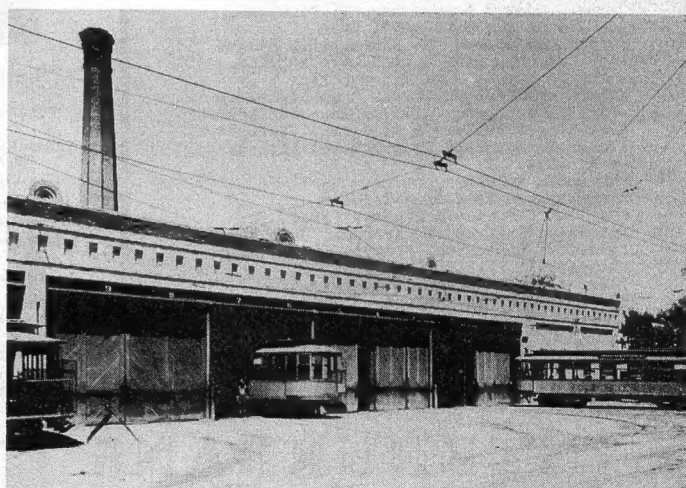
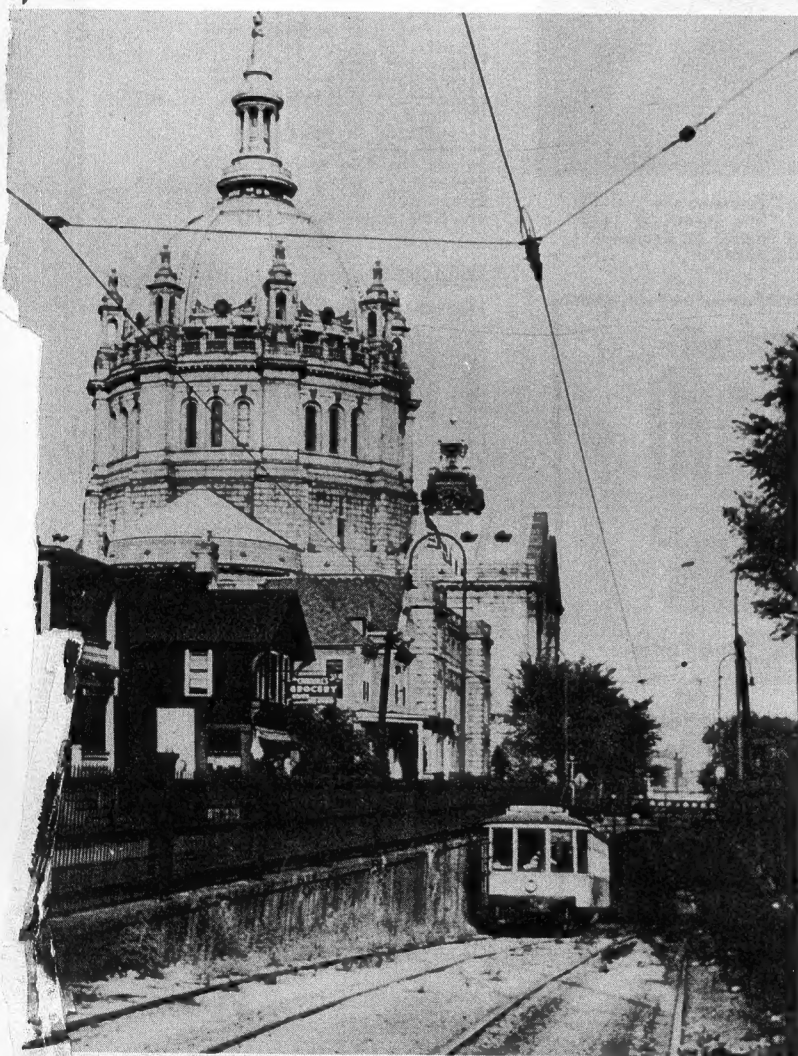
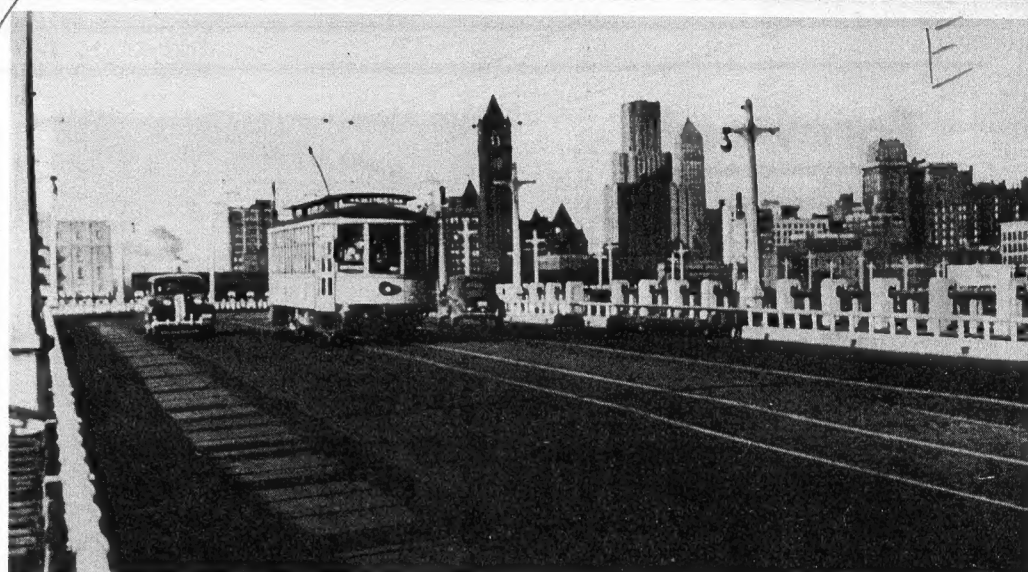
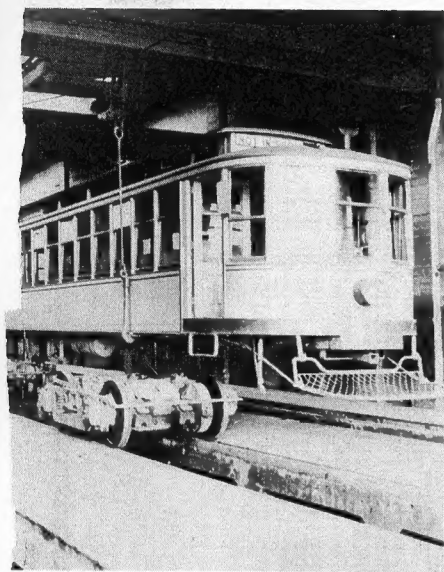


ELECTRIC RAILWAYS OF MINNEAPOLIS & ST. PAUL



INTERURBANS SPECIAL NO. 14

INTERURBANS SPECIAL 14 •



Foreword •

The staff of INTERURBANS is responsible only for the organizing of the material herein. Credit for its origination is hereby acknowledged: mainly to Russell L. Olson and Edwin H. Nelson, who with the help of Fred Howarth brought together the data from many and varying sources.

First of all, we would like to dedicate Special 14 to the memory of Mr. Charles J. Sulzbach, Minneapolis' most outstanding railfan, who was killed in the Labor Day 1950 crash of two railfan special trains on the Milwaukee Rapid Transit & Speedrail line. Much of the material and many of the illustrations are taken from his collection which was accumulated during his research for just such a history as this.

The history climaxes years of research by various people (to whom credit is given below). Special 14 includes not only the history of the Twin City Rapid Transit Company but also those of the other electric railway companies in the Twin Cities area, because these latter companies were closely connected with TCRT through trackage rights or equipment purchases.

Our research was hampered by the lack of certain old records. Many of the records kept by the companies relating to their earliest beginnings are no longer in existence; some were accidentally destroyed and others were thrown away because someone felt they could no longer serve any useful purpose. Under such circumstances, we believe that we have presented as complete a history as is possible.

We are very grateful to those individuals and organizations who generously gave their time and assistance to make this history possible, and we would like to extend credit to them as follows:

To the following officials, employees, and former officials of the Twin City Rapid Transit Company through whose cooperation we obtained the majority of the TCRT material used herein: D. J. Strouse, Sibbald MacDonald, E. J. Whittlesey, L. G. Barnes, W. P. Jacobsen, L. E. Erickson, F. A. Ossanna, Raymond Cotten, and Frank Lund.

Mr. A. A. Kranhold of the Minneapolis & Northern Railway and later the Minneapolis, Anoka & Cuyuna Range Railway.

Mr. Myron Handy of the Minneapolis Filtration Plant Railway.

Mr. C. P. Bratnober of the Central Warehouse Company.

For data on the Stillwater line: Mr. H. E. Callander, Robert Schumacher, W. J. Olsen, W. K. Blewett and Maurice W. Nash.

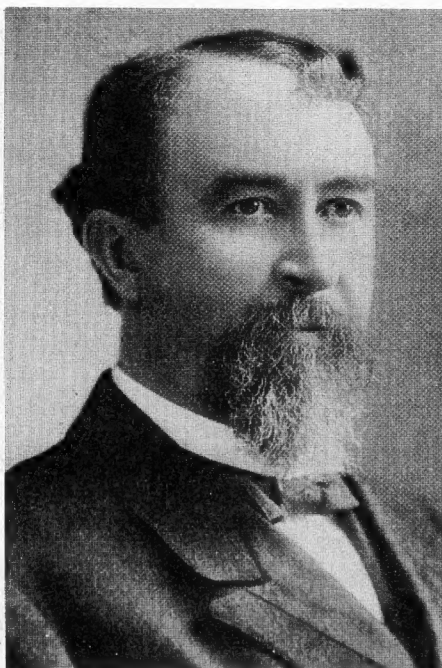
"The Valuation of the Minneapolis Street Railway Company, 1916," by F. W. Cappelin, Engineer of the City of Minneapolis.

"The Electrical Northwest," published in St. Paul from October 1891 to December 1894.

"The Street Railway & Electrical News," published in St. Paul from October 1891 to December 1894.

The Anoka Herald.
The Minneapolis Star & Tribune.
St. Paul Dispatch & Pioneer Press.
Minnesota Railroad & Warehouse Commission.
Minnesota Historical Society.
Minneapolis Public Library.
James J. Hill Reference Library.
Electric Railway Journal.

The Authors



Mr. Thomas Lowry, Founder and President of TCRT until 1909. The streetcar lines he built molded the design of Minneapolis and St. Paul for all time.



"Sightseer" Time Table

(Except Sundays and Holidays—Rain or Shine)

Leave Ryan Hotel } 8:40 am. 2:00 pm.
St. Paul

Arrive on return - - - 12:10 pm. 5:30 pm.

Leave West Hotel } 9:30 am. 2:50 pm.
Minneapolis

Arrive on return - - - 1:00 pm. 6:20 pm.

Time 3 1/2 hours. Distance 40 miles.
Fare 50 cents. No tickets required.
You pay on the car. Children full fare.

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PHOTO CREDITS: We thank the following photographers, whose work has been reproduced herein:

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EHN - E. H. Nelson	RO - Russell Olson
FH - Fred Howarth	SM - Steve Maguire
GK - George Krambles	WO - William Olson
HC - H. Callander	WM - Warren Miller
HR - Herman Rinke	

Photos not otherwise credited are from the official TCRT files.

Front Cover: Top Left: 1217 undergoing rehabilitation at Snelling Shops, 1916.
Top Right: Columbia Heights car northbound on 3rd Ave. Bridge, 1948. (JS)
Lower Left: Selby-Lake car emerging from Selby Tunnel, St. Paul. (JS)
Center Right: Double-deck car 1145 at Excelsior, 1909.
Lower Right: Nicollet Station, 1904.

TONKA BAY HOTEL

(MANAGEMENT "TWIN CITY LINES")

WILL OPEN ON SATURDAY, JUNE 13
1908

INTERURBANS

1416 SOUTH WESTMORELAND AVENUE • LOS ANGELES 6, CALIFORNIA

Editor & Publisher : Ira L. Swett
Associate Editor : Fred Howarth
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When the staff of INTERURBANS was invited by a group of Twin Cities electric railway historians to publish this work, the response was mixed. There was the natural urge to be instrumental in preserving to some degree a famous electric railway system which was being dismantled by a new ownership; there was the expected feeling to restrain ourselves from venturing too far afield---away from our own Pacific Coast, the scene of all our previous efforts; there was the worry of obtaining enough in material (facts, pictures, plans) to bring Special 14 up to our standard; there was the belief that some other organization nearer to the Twin Cities should undertake a job of such magnitude. After taking all these points into account, we determined to publish the work you now hold in your hands. If it merits your approval, we will be encouraged to widen our field of subject matter considerably in the future.

INTERURBANS' Special 14 deals with all the electric railways which ever operated in the Twin Cities area. In addition, attention is paid to Duluth, which in the matter of rolling stock, was a smaller version of Twin Cities Rapid Transit Company.

Minneapolis lies on the forty-fifth parallel, 1,145 miles west of Portland, Maine, and 1,435 miles east of Portland, Oregon, as the crow flies. St. Paul is ten miles east of Minneapolis, City Hall to City Hall. The Twin Cities are divided by the Mississippi, 1,596 miles from where it pours into the Gulf at New Orleans.

St. Paul, the capital city of Minnesota, has seen itself surpassed by Minneapolis, new in the 1870s, now the home office of the big five of the milling industry. The bulk of Minneapolis' population is Scandinavian, but the city is still more or less the property of the New Englanders who settled it, won a city from the wilderness, and still dominate it today. Minneapolis is lusty and confident, looking to the future always, truly the beginning of the West.

But if Minneapolis is the beginning of the West, St. Paul is the ending of the East. It is hilly, cramped and set in its ways. Its streets are narrow, its buildings small. It is a city grown old; its people, complacent. It seems as old as Boston, yet is only a few years older than Minneapolis.

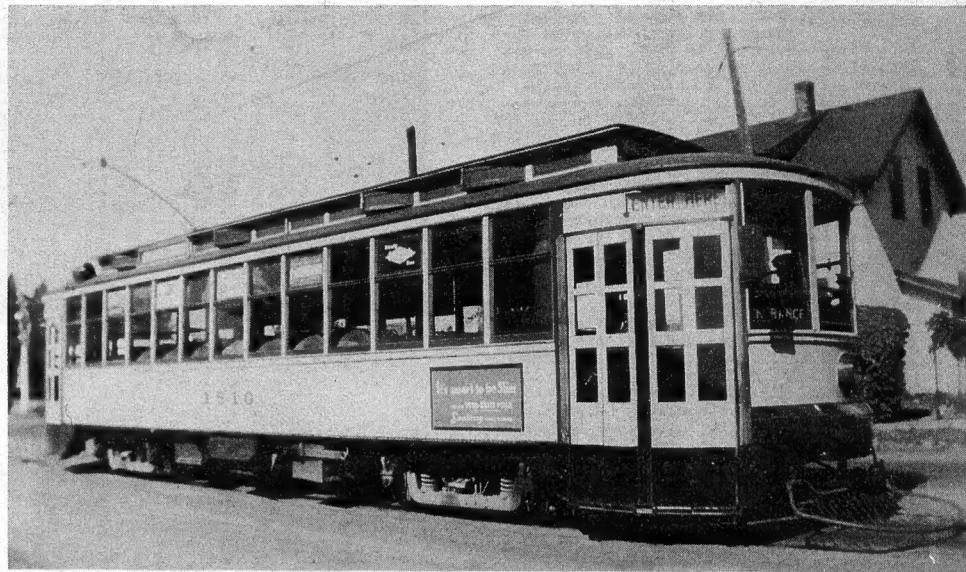
Modern civilization in the region began in 1680, when one of LaSalle's men, Father Louis Hennepin, discovered a waterfall in the upper river and named it the Falls of St. Anthony. For the next century and a half the French came and went, trading in furs, leaving nothing but their names: Nicollet, Duluth, Faribault.

By 1819 the frontier had reached the Falls of St. Anthony; there was an American trading post at Mendota, below the falls, and that year Colonel Leavenworth began building Fort Snelling, which was christened in 1824. 1830 saw a small trading post in action down the river; its chief business was in providing highly cut whiskey to soldiers. This became the city of St. Paul (1841). By 1849 St. Paul had a population of 1,300. That year Minnesota became a territory, and St. Paul was chosen as its capital.

Meanwhile the town of St. Anthony was growing up to the west of St. Paul. In 1852 land was opened for settlement west of the river, directly across from St. Anthony. A town was laid out and in 1854 it got its name: a combination of "Minnehaha" (Laughing Water) and the Greek suffix "polis": Minneapolis. In the interest of euphony the "h" was dropped. In 1872 the towns of St. Anthony and Minneapolis were reincorporated into the city of Minneapolis.

Railroads and the lumber industry both arrived in the 1860s. Jim Hill made St. Paul the heart of a rich, fast developing area and his First National Bank of St. Paul rendered his empire independent of Wall Street. His agents combed the Scandinavian countries to start settlers his way, and as his railroads opened up the plains, his workers homesteaded the land alongside.

Minneapolis benefited even more than St. Paul, for Minneapolis had the cheap waterpower of St. Anthony Falls and the mills that built the city were established beside the falls. By 1880 Minneapolis had passed St. Paul in population, to the latter city's abounding dismay.



Typical of the standard type cars distinctive of the Twin Cities is car 1510, shown here at the end of the Snelling Ave. line in 1949. Twin City Rapid Transit Company constructed hundreds of these cars in its shops, even building their trucks. (FH)

The Northern Pacific and the Great Northern funneled the trade of the whole vast northwest into the Twin Cities. The early 1900s were great years for both cities, situated as they were at the halfway point of a rich transcontinental route, tapping the big Northwest of its cattle, wheat and timber---from Minnesota to Washington.

The opening of the Panama Canal in 1915 greatly cut down the trading area of the Twin Cities, for a load of lumber could be shipped more cheaply from Everett to Newark and west by rail to Ohio than to make the direct trip by rail via the Twin Cities. So the Twin Cities lost much of their empire and have since had to remain content with that area consisting of Minnesota and the Dakotas.

The lumber industry died about 1915, but the Twin Cities have still the milling industry and the iron mines. Cheap labor has been instrumental in making Minneapolis a manufacturing center of first line importance. The names of its manufacturers are familiar in households from coast to coast: Washburn, Crosby, Pillsbury, Hamm, Weyerhaeuser---and Tom Lowry. In the Twin Cities it was said for many years that you didn't ride streetcars---you rode Tom Lowrys; this, at perhaps long last, brings us to our subject.

Thomas Lowry was the builder of the Twin City Rapid Transit Company. His story will be found in detail on the following pages. Suffice it to say here that Lowry stamped his name so indelibly on TCRT that at times the two names were synonymous in the minds of Twin Cityans. His companies were:

THE TWIN CITY RAPID TRANSIT COMPANY was incorporated in 1891 with a capital stock of \$5,000,000, as a holding company which purchased all of the stock of the Minneapolis Street Railway and the St. Paul City Railway companies.

THE MINNEAPOLIS & ST. PAUL SUBURBAN RAILROAD COMPANY was incorporated in 1899 with a capital stock of \$3,000,000, all held by TCRT, to operate the suburban lines of TCRT.

THE MINNETONKA & WHITE BEAR NAVIGATION COMPANY was incorporated in 1910 with a capital stock of \$250,000, all held by TCRT, to operate the steamboat lines, restaurants, and amusement enterprises of TCRT. The M&WBNC is now dormant.

THE RAPID TRANSIT REAL ESTATE CORPORATION was incorporated in 1919 to acquire the real estate owned by TCRT but not used in the operation of the street railway system. This corporation is now dormant.

THE TWIN CITY MOTOR BUS COMPANY was originally an independent company which started bus operation in the Twin Cities, and gave service in harmony with TCRT. The entire capital stock of TCMBCO was purchased by TCRT during 1924-26. All TCRT bus operations are run by this subsidiary.

THE TRANSIT SUPPLY COMPANY is the fiscal agent for TCRT, and is in charge of accounting, purchasing, the Snelling Shops.

The Minneapolis Street Railway operates the entire street railway system located within the corporate limits of the City of Minneapolis. It owns all of this operated property except for the Lake Harriet right of way, which is owned by the Minneapolis & St. Paul Suburban RR. This section comprises 5.9 miles of single-track equivalent, stretching from Irving Ave. So. & 31st St., to the city limits at France Ave. So. & 44th St. It also operated the Fort Snelling line, comprising 4.45 single track miles on The United States Government Reservation, and the 1.5 miles of track on the Columbia Heights line north of 37th Ave. N.E., via Central Ave. and 40th Ave. N.E., to 5th St. N.E., for the M&STPS.

The St. Paul City Railway operates the entire street railway system located within the corporate limits of the City of St. Paul. It also operates, for the Minneapolis & St. Paul Suburban, 8.78 miles of the South St. Paul line (single-track equivalent), and 5.09 miles of the Stillwater line, from East 7th St. & Duluth Ave. to the city limits. Other property consists principally of the Selby Tunnel, and land on which are or were located office buildings, car stations, substations, and shops, plus the power transmission system.

The Minneapolis & St. Paul Suburban RR owned the following lines, and operated those portions outside the city limits of Minneapolis or St. Paul:

	Single Track
Lake Minnetonka lines (including Hopkins)	49.00 miles
Columbia Heights line	1.54
Robbinsdale line	1.85
St. Louis Park line	2.10
Stillwater line	32.73
Mahtomedi branch	1.80
White Bear branch	4.47
South St. Paul line	8.78
Total	102.27



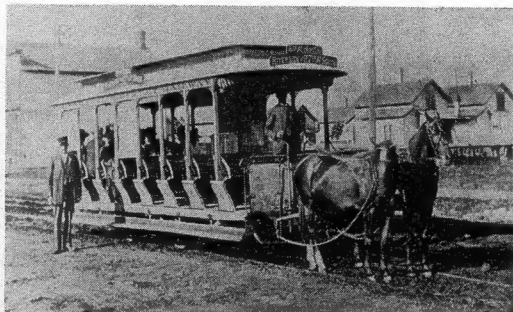
Bus.

BEGINNINGS: The first attempt at providing public transportation in the Twin Cities occurred in 1866, when on the 16th of December a group of St. Paul businessmen, George L. Becker, Parker Paine, A. H. Wilder, John L. Merriam, and Louis Robert, applied for a franchise to use all St. Paul streets except Jackson Street for horse cars. However, no construction was undertaken until 1872, when a line was built by the St. Paul Street Railway Co., incorporated on May 9th of that year. This line extended from Seven Corners, along 3rd St. and what is now Kellogg Blvd., to Wabasha St., to 4th St., to Jackson St., to 7th St., to Locust St., to Lafayette & Westminster Sts., with a barn located on St. Peter St. between 4th & 5th St. The first horse car left the corner of 4th & Wabasha at 4.00 pm on 15 July 1872, over the two-mile route. In 1874 the St. Paul Street Railway encountered financial difficulties, and Governor Marshall and his associates became interested in the company. However, in 1877, the firm defaulted on its bonds, and the franchise and property were sold at a sheriff's sale on September 28th to Thomas Cochran, Jr., as trustee. On 16 November 1877, the SAINT PAUL CITY RAILWAY COMPANY was incorporated, and it acquired the assets of the defunct St. Paul St. Ry. Co., to resume operations. In 1882, a local syndicate composed of Herman Greeve, Ansel Oppenheim, Arnold Kalman, and Frank B. Clarke, obtained control of StPCR. They immediately began to instill new vitality in the property by extending old lines and building new ones, along with the construction of more horse car barns. These improvements entailed considerable expense, and insufficient revenues caused such concern by 1886, that Thomas Lowry was persuaded to take over their investment.

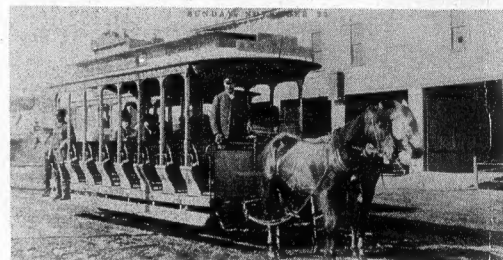
The MINNEAPOLIS STREET RAILWAY COMPANY was organized on 1 July 1873, with the following incorporators: D. Morrison, W. D. Washburn, Wm. S. King, R. J. Mendenhall, W. P. Westfall, J. C. Oswald, Paris Gibson, W. W. Eastman, R. B. Langdon, and W. W. McNair. Colonel King and Thomas Lowry brought the proposition to the attention of Philo Osgood of Illion, New York, and friends, who, on 13 August 1873, subscribe for the majority of the stock. At the annual directors meeting, on 9 July 1875, the following officers were elected: president, Philo Osgood; vice-president, Thomas Lowry; secretary, William S. King; treasurer-general manager, James Tuckerman.

On the same day as the directors meetin the City Council of Minneapolis passed an ordinance granting a franchise to the company for fifty years from 1 July 1873, for the construction and operation of a street railway system. This ordinance provided for the building of two routes. The first route, to be completed within four months, was to extend from the St. Paul & Pacific Railroad crossing at Washington and Fourth Avenues North, along Washington to Hennepin Avenue, thence on Hennepin, across the Mississippi River, along Central Avenue S.E., to 4th St. S.E., and along 4th St. S.E. to 14th Avenue S.E. The second route was to extend from Plymouth and Washington Avenues, along Washington to 12th Avenue South, thence along the most practical route, to Franklin Avenue, and was to be built within one year. The city council reserved the right to designate other lines of railway as lines demanded by the public necessity, and also to designate extensions of existing lines.

The cars to be used upon such tracks were to be propelled with animal or pneumatic power as the company preferred, provided that no power or machinery should be used after it proved to be a public nuisance. Cars were to equal those of other cities in style and quality. The fare within the city limits was specified as five cents. The city council reserved the right to alter the fare structure at the end of five years, with the provision that the fare would not be made less than five cents on any one route up to three miles long. This ordinance was accepted by the company on 18 August 1875, and was confirmed and ratified by Act of the State Legislature on 4 March 1879. The company proceeded to build the lines in accordance with the grant, and operation began with two cars on



HORSE CARS



Top Left: Minneapolis Street Railway horse car of 1888 type, running on the 6th Ave. North, Riverside & 27th Ave. South line; photo taken at Riverside Ave. & 24th St.

Top Right: Hennepin Ave. & 12th St. in the '80s; a closed horse car is seen passing the old Hennepin Ave. Methodist Church on its way to Lyndale & Lake.

Lower Left: Closed horse car 17 passes the then-new Central High School in 1878; at that time the horse car lines were reaching toward Franklin Ave., the city limits.

Lower Right: Another Minneapolis Street Railway open horse car, this one running on the Plymouth & Bloomington Aves. via Court House line.

2 September 1875. The first day's receipts were \$21.50. At that time, the area of the corporate limits of the city was eleven square miles, and the total length of the street railway was two and one-tenth miles.

THE HORSE CAR PERIOD: As might be expected, very few of the streets were paved, nor in fact was any grade established. The tracks were therefore laid to conform to the surface of the street as travelled. Construction consisted of five-by-five-inch wooden stringers spiked to wooden crossties. Bent iron plates, weighing twenty-three pounds to the yard, were spiked to the stringers, thus forming the rails. Contract cost of the completed track was \$6,000 per mile.

The primitive type of car in use at that time measured ten feet between bulkheads, and weighed about 1,000 pounds. The driver was exposed to the weather on his open platform, from which he guided a single horse. Two longitudinal seats accommodated fourteen passengers inside the car. Service was provided from five a.m. to eleven p.m., with a fifteen-minute headway. Maximum speed was supposed to be six miles per hour. Cars were painted a distinctive color for each line and used only on that line. Interior illumination was provided by a feeble and odoriferous oil lamp. A small sheet-iron stove in the middle of the car supplied a meager amount of heat in cold weather, with about a foot of hay on the floor to aid in keeping the passengers' feet warm. In consideration of the character of the track and equipment in use at that time, it was no surprise for the cars to become

derailed. The passengers would then get off and help the driver in putting the car back on the track, or in pushing it up a grade.

A fare box was placed in the front end of each car, and the passenger was expected to deposit his nickel in it when entering the car. Many an early patron remembered how the driver reminded him, by stamping on the gong, that the passenger had not placed his fare in the box. Receipts averaged \$37 a day in 1875, \$55 in 1876, and \$85 in 1877, by which time eighteen cars were being operated. Horses cost from \$135 to \$150 each, six being required in relays for each car during a day's service. At some times the company did not take in enough fares to meet the payroll, and workers were occasionally two to three months behind in receipt of wages. The first barn was at 3rd Avenue North & Second Street, the entire shop force consisting of one man in the mechanical department and one blacksmith.

Because of the early recognition that MINNEAPOLIS STREET RAILWAY and SAINT PAUL CITY RAILWAY were destined to become important factors in real estate values, constant demands were made after 1876 for extensions of existing lines and the building of new lines. The street railway service gave property in the outlying districts a greatly enhanced value, and permitted persons of moderate income to own their own homes and still be able to reach their work with a comparatively short street car ride for only five cents. Many routes were built into sparsely-settled territory, and new barns erected at several locations. By 1890, the system had expanded so that Minneapolis had

218 horse cars and 1018 horses operating over 66.7 miles of track, while St. Paul had 159 horse cars and 900 horses and 53.3 miles.

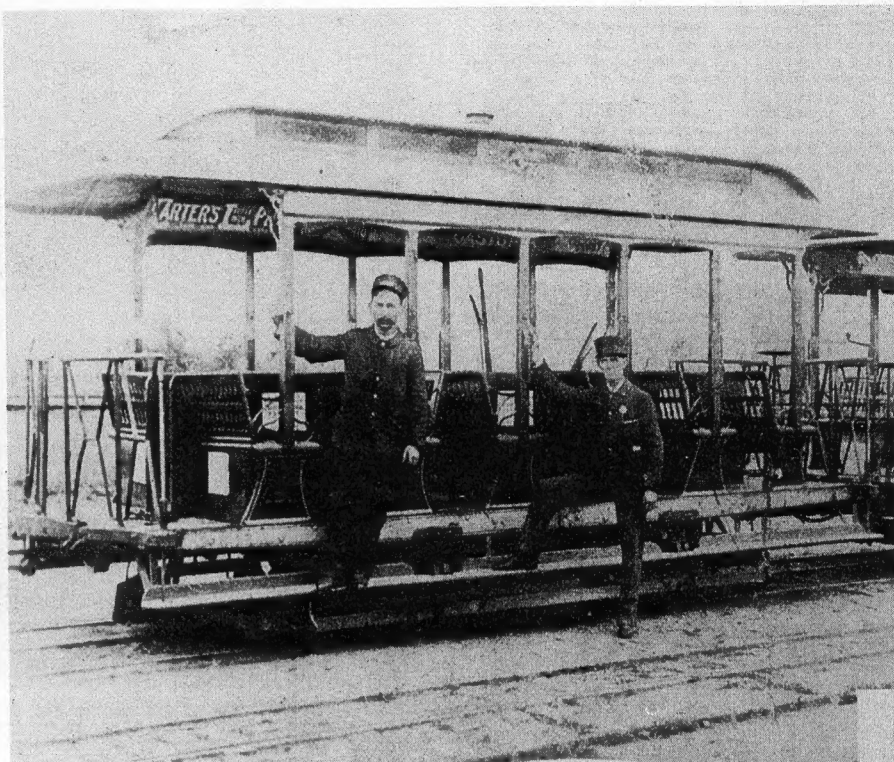
The horse car lines had scarcely been completed when work of electrifying the entire system began. This required complete reconstruction and resulted in the loss of most of the original investment. Street railway securities at that time were of dubious value, and those of the Twin Cities were no exception. Their worth depended not only on efficient management but also on the growth and prosperity of the community. This imposed enormous financial burdens in expanding facilities to meet the public demand for more & better service. Unprofitable horse car operations, plus the heavy cost of experimental cable lines, made unusually difficult the project of financing the conversion to all-electric operation.

CABLE LINES: For several years inventors had been working to develop a system of street railway operation which would replace animal power and make it possible for larger and better cars to be used and a faster service obtained. The first result of the efforts of these inventors was the development of the cable lines, which had been adopted to a limited extent in some of the larger cities. Different phases of this new system were brought to the attention of MSR and StPCR, and a committee of ten from the city councils visited Cleveland, Baltimore, Richmond, Boston, New York, and Philadelphia, at the expense of the Twin Cities companies, for the purpose of informing themselves as to the best system for cable railways, and also to obtain any available data regarding the newly-invented electric railway.

St. Paul is a city of hills, and cable operation lent itself nicely to several lines. East 7th Street is one long hill from downtown St. Paul to halfway to the city limits. The downtown area of St. Paul rests in a three-sided bowl, with the Mississippi River cutting thru. Hills on the western and northern sides are quite steep, and retarded the expansion of horse car service. In 1867 a cable line was built from Broadway to St. Albans, along 3rd & 4th Sts. and Selby Ave. This route surmounted Selby Hill on a 16% grade extending from Pleasant Ave. to Summit Ave. A steam power house and car barn was built at Dale & Selby, and the line opened for revenue traffic on 16 January 1868. A few days later, on 27 January, a grip failed to hold a car coming downgrade, the cars running off the track killing one person and seriously injuring several others. This accounts for later reports listing only eleven grip cars on the line, instead of the original twelve. An extension to Selby & Fairview was completed in 1890.

A second cable route was constructed on East 7th St. from Wabasha St. to Duluth Ave., with a powerhouse and car barn at 7th & Duluth. This line began regular service on 14 January 1869. With the coming of the trolley cars, the East 7th St. line was electrified in August 1893. Regular trolley cars were also put on the Selby Ave. line in 1898, but a counterweight system using old cable cars was installed on Selby Hill, the regular cars being pushed uphill and led downhill.

In 1868, Anderson & Douglas petitioned the Minneapolis City Council for an electric street railway franchise. After numerous meetings and investigations, the city council passed a resolution on 19 July 1869, directing MSR to install cable trackage on two routes. Double track was to be laid thruout. Notwithstanding the fact that at that time MSR did not believe that the cable railway or any new motive power had been demonstrated to be a practical success, and therefore the time was not ripe for making any radical changes necessitating a heavy expenditure, MSR agreed to the terms of the resolution, and at once placed orders for especially-designed steam engines, as well as a large quantity of track supplies for the two lines. Soon afterward, however, the company decided that electric cars, drawing current from overhead wires, would be more satisfactory, and all cable line supplies were eventually sold for scrap.



Here is an 1894 photo showing the type of grip car used by the cable railway lines in St. Paul. This particular grip car and its open trailer were in use on the Selby line. From 1898, when the Selby line was electrified, until 1906, when the Selby tunnel was constructed, these grip cars pushed electric cars up the steep grade and preceded them down the hill—most unique!

THE GREAT MERGER: Thomas Lowry obtained control of the St. Paul City Ry. Co. on September 15, 1886, thus bringing both StPCR and MSR under his supervision as president of each. Calvin Goodrich was also an officer of both companies, but otherwise separate sets of directors and officers were appointed. As the two systems had spent \$6,000,000 on electrification, instead of the estimated \$2,500,000, Mr. Lowry went to New York early in 1891 to arrange loans for each company. Separate loans were not forthcoming, but when he convinced some banking interests of the earning power of a combined system serving a total of over 500,000 people, it was suggested that if he would form TCRT, he would then be given a loan. As a result, TWIN CITY RAPID TRANSIT COMPANY WAS incorporated on 3 June 1891, under the laws of the State of New Jersey, for the purpose of acquiring the stock of StPCR and MSR. From 1 January 1892, StPCR and MSR were operated as a consolidated system.

MAIL SERVICE: This was instituted 1 August 1891, when twelve cars on the Minneapolis-St. Paul interurban line were equipped with mail boxes. These were similar to the regular street-corner mail boxes. Made of sheet iron, they were fastened to the street cars on the right hand side, so that persons wishing to deposit letters could do so without boarding the cars, but also in a convenient position for passengers. (Apparently there were letter slots on both front and back of the box). Each mail-box car carried a flag and was appropriately marked U. S. MAIL. Boxes were painted the same color as the car, and were emptied at both ends of the run by postal agents. By 1894, the service had been increased so that all cars in both cities were equipped for it. This was discontinued later, and mail boxes removed from the cars. Newspapers, packages, and pouch mail were carried in the front vestibules of cars on various lines until 1951.

EARLY EXPANSION: Twenty cars built by the Northern Car Co. from designs furnished by TCRT were put in service on the Minneapolis-St. Paul via University Ave. line in 1892. While commodious and comfortable, they were found to be weak in construction, and were soon in the shops being rebuilt. After every effort had been made to purchase a type of car to meet TCRT requirements, two cars were built in the company shops in 1898. These proved so satisfactory that the home construction of more cars was decided upon, and the manufacturing facilities of the shops increased until TCRT soon made all its own rolling stock. In 1907, the shops were moved from Minneapolis at Nicollet Ave. & 31st St., to a sixty-acre tract bordered by Snelling, University, Pascal, and St. Anthony Avenues in St. Paul. Back in 1904, TCRT moved into its new office building in Minneapolis at Hennepin Ave. & 11th St. This building, and the one in St. Paul at 10th & Wabasha, also housed a substation each.

The present power station, on the north side of the Mississippi River at 10th Ave. S., was placed in operation in December 1903. Alternating current at 13,200 volts is generated by steam turbines and fed to the trolley wires at 600 volts DC from local substations. Normally the boilers are oil-fired, but are arranged for easy conversion to burn coal, an emergency supply of the latter being stored on the ground outside the power station.

The first line connecting the two cities was the present route on University Avenue, originally a horse car line. Como-Harriet, the second intercity route, was opened from Lake Harriet to St. Paul on 1 July 1898. The Lake St. Crosstown line was opened on 27 May 1905, and with the completion of a new bridge across the Mississippi River on 21 May 1906, thru cars were operated with the Selby Ave. line in St. Paul, thus providing the third route.

TCRT purchased the St. Louis Park and Robbinsdale lines from independent operators in December 1906.

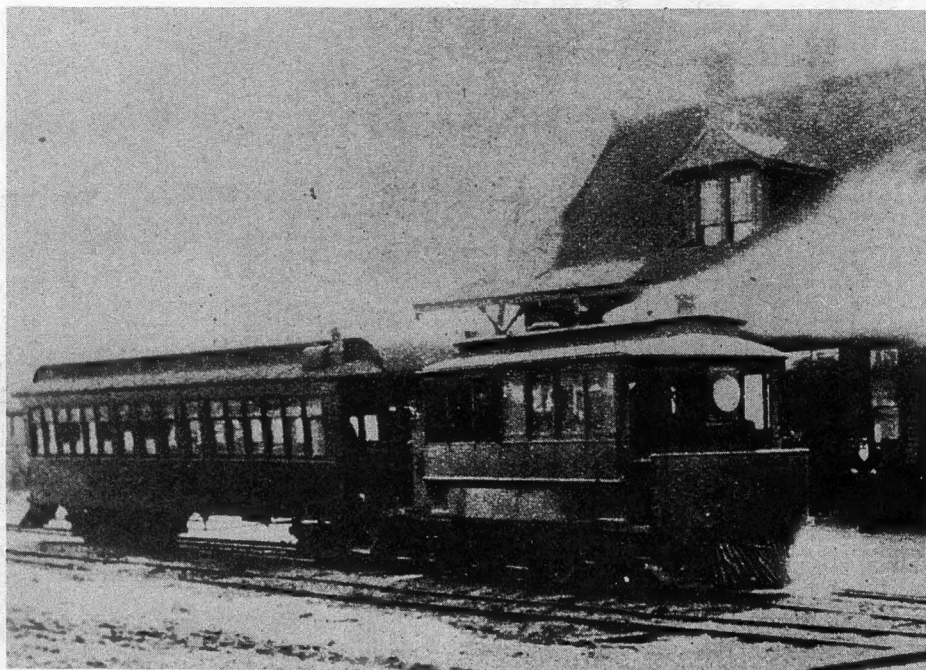
MINNEAPOLIS LYNDAL & MINNETONKA RY.

It may seem unheard of that as late as August 1890, steam trains operated on the streets of downtown Minneapolis. Yet the "Motor Line" played an important part in the early development of the area bounded by 4th Avenue So. on the east, 26th Street on the south, and Lake Calhoun on the west. Except for a few farm houses and a cottage here and there, that wide territory which today is solidly built up, was in 1890 a vast plain. However, there were Lakes Calhoun and Harriet, which could be made into pleasure resorts, and thus prove a source of revenue. There was Lakewood Cemetery, to which people might like to make a short temporary visit. A railroad was needed to develop these possibilities, so on 1 July 1878, the Lyndale Railway was incorporated by Colonel William McCrory and William B. Hawkes of Columbus, Ohio, and Samuel E. Neiler, Robert S. Innes, and Judson N. Cross of Minneapolis. Colonel McCrory was the president, general manager and chief advocate of the road which he dreamed might run to Fort Snelling and St. Paul, as well as tap all the small towns in the western part of the state, and so bring them closer to Minneapolis. Within a year after the company was organized, the first line was opened for business under the name MINNEAPOLIS LYNDAL & LAKE CALHOUN RAILWAY. Lyndale was the name of Col. McCrory's farm.

The MOTOR LINE derived its name from the fact that the steam locomotives which were used for pulling the trains were housed in so as to be less objectionable when running thru the streets and less likely to frighten horses. The track was laid to three-foot gauge. The route left the intersection of Nicollet Avenue and First Street, directly opposite what was then the Gale Market House. There was a short siding between Nicollet & First Avenue South, to permit the motor to run around the cars after arrival. Leaving Nicollet, the track ran along First Street to First Avenue South (now Marquette), to 13th Street, to Nicollet, to 31st Street, to Hennepin, then along a curving right of way to the east shore of Lake Calhoun at 34th Street, for a total of 4.5 miles.

There was great rejoicing one summer day in 1879 when the first motor train tooted its way out First and Nicollet Avenues to Lake Calhoun. However, it was a railroad built and operated on a shoestring, for there was only the flimsiest of financial structures supporting the enterprise, and the company was frequently only one lap ahead of the sheriff. The single track was laid with 35-lb iron T-rail. The first rolling stock consisted of motors 1 & 2 and closed trailers 1 & 2. The passenger cars were about the size of the present street cars, and seated sixty people on bench-like affairs along each side of the car. A coal stove in the center furnished heat in the winter, and a kerosene lamp at each end, as well as kerosene chandeliers along the ceiling provided illumination. The motors and cars were second hand from an eastern railroad. The first two motors were weaklings and had all they could do to haul one or two cars up the steep hill on Nicollet Avenue from 19th Street to 23rd Street. When the track was slippery, trains had a difficult time making the grade, and had to be sure of a full head of steam before tackling this stretch.

Trains left Bridge Square on their first timetable in 1879 every forty-five minutes. The inbound trains from Lake Calhoun were passed on a siding at Nicollet Avenue and 24th Street. Each motor pulled a trailer of the same number. Running time to Lake Calhoun was thirty minutes. Folks were supposed to have gone home for the night when the last train left town at 10.15 pm for Lake Calhoun. Each motor had a combination engineer-fireman for a one-man crew, while the cars were in charge of a combination conductor-brakeman. In later years, each car on a train was in charge of one man. The trains made flag stops at all street intersections, and in bad weather, passengers were lucky to make connections with a cross-walk on the unpaved streets. Since there were no wyes or turntables, the motors ran forward to Minneapolis, and backward to Lake Calhoun.



One of the tiny steam motors and its passenger trailer is shown here at the junction, 31st & Nicollet, about 1886. Note the motor's resemblance to the typical horse car body of that period. ML&M station in background.

In March 1879, the Motor Line was given the right to build a canal connecting Lakes Calhoun and Harriet, and to operate boats on those lakes to carry freight and passengers. The company never availed itself of this privilege, however, as it was found that Lake Harriet was several feet higher than Lake Calhoun. For a short period, tho, it did operate a fair-sized passenger steamboat, the HATTIE, on Lake Calhoun. This boat made regular trips around the lake, but did not meet with any noticeable success, and was soon discontinued. One summer evening in 1892, the old boat, from which the machinery had been removed, was towed out into the lake and set afire, several thousand persons witnessing the spectacle of a ship burning at "sea".

In February 1881, the name of the road was changed to MINNEAPOLIS LYNDAL & MINNETONKA RAILWAY, under which name it operated until April 1887, when it was taken over by the Minneapolis Street Railway.

The route was extended to Lake Harriet in 1880, over what is now the trolley car right of way. Two new larger motors and some old cars were purchased from New York and Philadelphia. Seven second-hand open cars were also obtained. There were no safety appliances of any kind on the cars to keep the passengers from falling off, but the line carried over one million people in its first five years of operation without an accident.

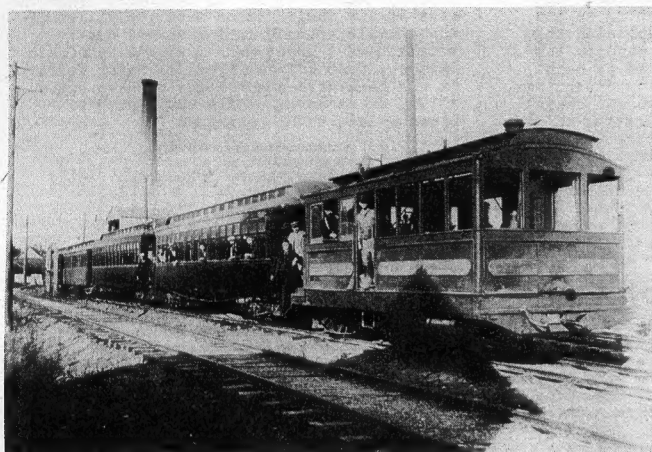
To tap the lucrative Lake Minnetonka resort traffic, an extension was built from Lake Harriet to Excelsior in 1881. Two new standard steam locomotives were purchased, and these were named ROBERT S. INNES and WILLIAM B. HAWKES in honor of two of the company's officers. The fifteen miles of new line were completed in short order, and the first revenue train over the extension was the Westminster Church Sunday School picnic special on 15 June 1882. The locomotives pulled the trains from Lake Calhoun to Excelsior, while the motors were used from downtown Minneapolis to Lake Calhoun. The locomotives never showed themselves north of the shops at 31st & Nicollet. The original shops had been at Lake Calhoun, as part of a tentative plan to erect an office building at that location. Such offices as the company had during independent operation were over the old Northwestern National Bank at 1st Avenue S. & Washington Avenue.

Two daily trains were run to Excelsior during the winter months, and six in the summer season. Running time was eighty minutes one way. Fares were very high for that period. From 1st Avenue South and Washington to 26th Street, the fare was five cents; to 31st Street, ten cents; to Lake Calhoun, fifteen cents one way, or twenty-five cents round trip; to Lake Harriet, twenty cents one way, thirty-five cents round trip. The round trip to Excelsior was seventy-five cents in the summer, and one dollar in the winter. Turntables were installed at Lake Calhoun and Excelsior for the locomotives used between those points. All the cars were painted a bright yellow, while the motors were painted black with gold trim. Cars were connected with link and pin couplers. There was one express & package freight car in service. This was painted blue, with the word DESPATCH in gold letters on each side. It operated to Excelsior from the Milwaukee Road connection at 29th Street & Nicollet Avenue, but drew very little business.

Colonel McCrory now thought the time was ripe to put an excursion boat on Lake Minnetonka to take care of his Motor Line customers. A boat was built to his specifications at Dubuque, Iowa, and partially dismantled for shipment to Excelsior on flat cars. Soon reassembled for service, the CLYDE was 150 feet long, and was the only steel-hulled boat ever launched in Lake Minnetonka. Slim and narrow, she resembled somewhat the deep-draft boats on the Great Lakes. Her upper deck gave her a top-heavy appearance, and as she curved and careened in the wind, she seemed as if about to capsize. Due to rumors that she was dangerous, the CLYDE was soon sold and carted away. The Colonel had learned that directing his narrow-gauge railway was enough trouble, without taking on steamboats and competition with the established fleet of Minnetonka boats.

Business grew, and the ML&M Ry bought two new engines and two new deluxe cars for the Excelsior trains. Frequency of the Lake Calhoun trains was increased to every twenty minutes. About this time, people began vigorously objecting to the smoke and noise of the trains on 1st Avenue South.

INTERURBANS



Above: A motor and four closed cars near Nicollet Shops, 1889.

Lower Right: Motor, two opens and two closed near King's Pavilion, Lake Calhoun, about 1885.

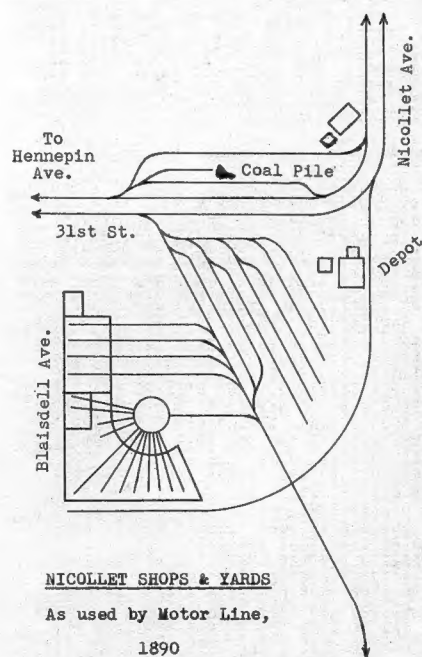
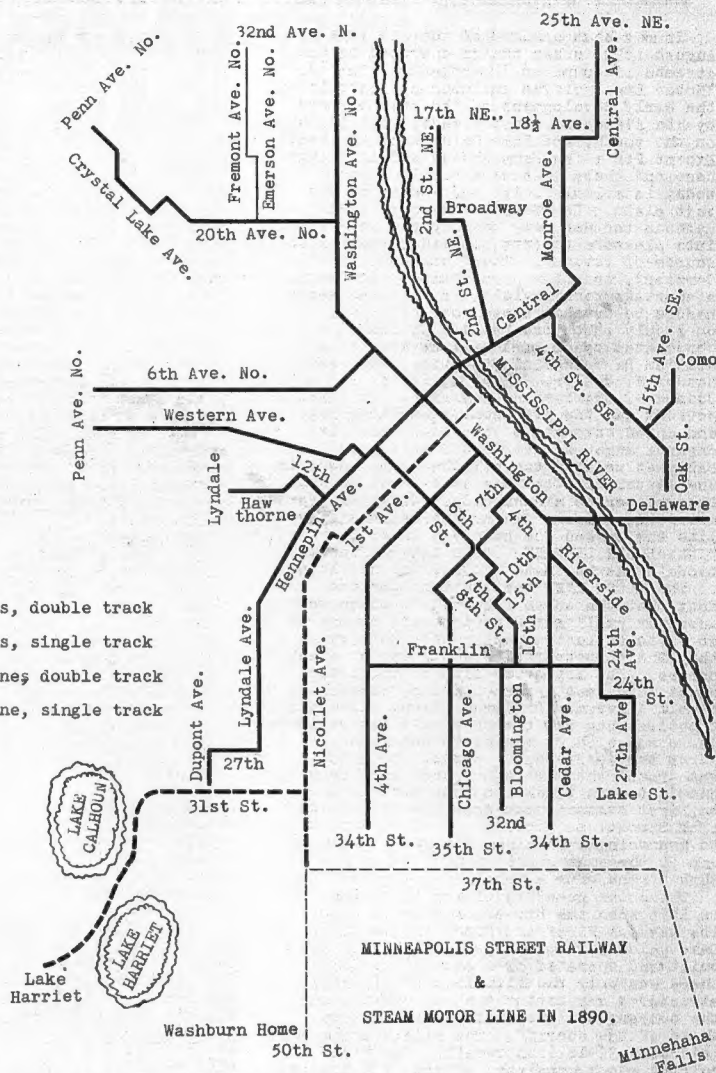
Indignation meetings were held, as a result of which, M&M was ordered to stop its trains at Washington Avenue instead of 1st Street and Nicollet Avenue. People then soon objected to the switching of trains at Washington, so the trains were stopped at 4th Street, and backed down to Washington. That still did not satisfy the objectors, so the trains were stopped at 6th Street, the motors left there, and each car hauled to Washington Avenue by four horses. The city council recommended discontinuing steam operation within the city, but the railway replied that no other suitable form of motive power was available.

A new route had been built out Nicollet to 37th Street, east to Hiawatha Avenue, then parallel to the CM&STP tracks as far as Minnehaha Falls; also a branch on Nicollet from 37th to 50th, all in 1885. The shops had been moved from Lake Calhoun to 1st Street & Nicollet, and a roundhouse built there. The original route was now double track as far as Lake Calhoun. Six large new passenger cars were received from an eastern builder and put in service. To see two or three of these long cars in a train running 1st Avenue or Nicollet was to witness the last word in passenger equipment for those days. The average train had started with one car, then grown to two or three cars, but many an excursion special or the 6.05 "Business Men's Limited" frequently boasted four or even five cars. Then came four other new closed cars built by Pullman, surpassing the previous models in deluxe fittings and trimmings. More new open cars were also purchased, the roster reaching a height of fifty-six passenger cars, nine freight cars, and fifteen motors or locomotives.

In its anxiety to find some means other than steam to get its trains into downtown Minneapolis, M&M tried some Van Doope electric cars to pull the steam coaches between Sixth Street and Washington Avenue. Apparently because this use of electricity was too new to be successful, the operation was soon discontinued.

Charles A. Pillsbury took over the line in 1885, but was unable to boost business enough to overcome the deficits incurred by winter operation, although capacity crowds were carried during good weather in the summer. The route between Lake Harriet and Excelsior was abandoned in August 1886, the two locomotives being transferred to service between 31st Street Junction and Minnehaha Falls. Purchase of the Motor Line by the Minneapolis Street Railway became effective on 1 April 1887. Gradual electrification of MSR's routes replaced the steam motor service. The last steam train made its way along 1st Avenue So. and Nicollet on 19 August 1890, and the first electric car ran on Nicollet to 31st Street on 22 September 1890. Steam operation on other portions of the former M&M routes ceased entirely in the summer of 1891.

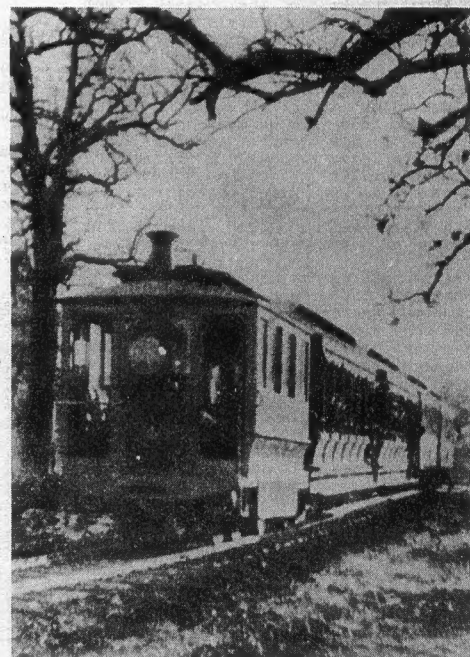
- Horse Car Lines, double track
- Horse Car Lines, single track
- Steam Motor Lines, double track
- Steam Motor Line, single track



NICOLLET SHOPS & YARDS

As used by Motor Line,

1890



EARLY ELECTRIC LINES

TWIN CITY LINES

INTRODUCTION OF ELECTRICITY: In June 1889, Archbishop Ireland and Thomas Cochran concluded an agreement with the St. Paul City Railway Co. to build, equip, and operate two electric lines, one from 7th and Wabasha out Oakland and Grand to Cleveland as an extension of the existing horse car line to Victoria and Grand, the other from 4th and Wabasha, out 4th to 7th to Randolph to Cleveland. The company agreed to have the road running within six months, providing a bonus was raised and paid to the company in installments extending over nine months, the first installment not payable until rails were laid.

When Thomas Lowry was first approached, he was skeptical as to whether electricity had become practical for street railway purposes. However, he finally agreed on the installation of the Grand Avenue line and the Randolph line, provided the company was protected from loss. As neither the railway's charter nor any amendment thereto gave it the right to employ anything but horsepower along the streets of the city, an ordinance was introduced at a city council meeting giving the railway the right to use electricity on these two lines and on other lines in the city upon which the foregoing lines would depend for connections with the business centers.

Meanwhile, half a dozen other corporations had applied to build rival and competing lines. This precipitated a contest which threatened to delay the anticipated improvements. STPCR gave public notice of its intentions to protect the exclusive rights it claimed to possess, and at once proceeded to lay its rails on 6th Street, heretofore left unobstructed by common consent. After much litigation and discussion, President Lowry of STPCR sent a letter to the Chamber of Commerce, in which he proposed that that body appoint a committee which would confer with proper members of the city council and representatives of the railway to see if an equitable adjustment could be made.

The foregoing suggestion was acted upon, and meetings were held almost daily for a month. The city advanced the argument that there was a necessity of modifying the existing charter and ordinances to make them less burdensome to the city and more favorable to the demands and needs of the public. It was stated that then was the proper time to do this, as the corporation was asking for a new grant of privilege in demanding that it be allowed to employ electricity. STPCR said that in asking permission to use electricity, that it sought only to improve service, and that to try to make this an opportunity of abridging or destroying the corporation's legal and vested rights was unwise and unfair. The situation boiled down to the council protecting the city's rights, the railway claiming its rights were being infringed, with the public anxious to withhold any improper advantage from the railway, but impatient for electric operation. The result of the extended discussion was the granting to STPCR by unanimous vote of the city council the right to operate all of its lines by cable, electric, pneumatic, or gas power, at the option of the company. This ordinance was passed 19 September 1889.

The Minneapolis City Council reserved the right to designate one of the existing horse car lines as a route upon which the Minneapolis Street Railway Co. should experiment with electricity as a motive power. When electricity, applied in any form upon such experimental line, should be proven a success, MSR could be ordered to operate in the same manner any other lines designated by the council. The company was required to post a bond of \$25,000, to be forfeited in case construction was not completed as specified.

A resolution was passed by the city council on 14 September 1889, authorizing MSR to string overhead wires on its 4th Ave. So. line from the outer terminus at 34th St. to 1st Ave. So. & 3rd St., and requiring the operation of this route as a test of electricity as a motive power. In accordance with this resolution, the company purchased the necessary engines and dynamos for generating electric power, rebuilt horse cars into electric cars, and let a contract to the Thomson-Houston Electric Co. for con-

verting the 4th Ave. line from horse car operation. This involved tearing up the light horse car tracks and replacing them with 70-lb T-rail. Poles to support the trolley span wires were erected on each side of the street. (On later conversions, center-pole bracket suspension was used.)

The main power house was located on 3rd Ave. N. & 2nd St., a large brick building adjacent to the horse car barn at that point. In order to insure as far as possible uninterrupted service, the company constructed a five-foot-diameter tunnel from this power house, under 3rd Ave. and the railroad tracks, to the Mississippi River, thus reserving an ample water supply in case of any breakage in the water mains or other failure of the city water supply. The current was delivered from the power houses to various points along the street car routes, by overhead insulated copper feeder wires. The original center poles with brackets for trolley wire were replaced after a few years by poles at the sides of the streets with span wire suspension.

Cars of most of these lines passed around the old Union Station loop, via Washington Ave., 1st Ave. S., High St., and Hennepin Ave. First days of operation for Minneapolis lines were:

4th Ave. S.	24 Dec. 1889
Washington Ave. N.	10 Sept. 1890
Minnehaha to Station	21 Sept. 1890
First Ave. S.	22 Sept. 1890
Lyndale Ave. S.	28 Nov. 1890
8th Ave. S.	7 Dec. 1890
Kenwood	9 Dec. 1890
University Ave. (to StP)	9 Dec. 1890
Hawthorn Ave.	10 Dec. 1890
Western Ave.	25 Jan. 1891
31st St. to Harriet	24 May 1891
Bloomington Ave.	28 May 1891
Minnehaha Falls	14 June 1891
University & Oak St.	14 June 1891
6th Ave. N.	11 June 1891
Central Ave.	28 June 1891
2nd St. N.E.	4 Aug. 1891
Hennepin Ave.	13 Aug. 1891
Bryant Ave.	16 Dec. 1891
Cedar Ave.	17 Dec. 1891
Monroe St.	19 Dec. 1891
Plymouth Ave.	31 Dec. 1891
Bryn Mawr	4 Aug. 1892

Car bodies and trucks in use at that time had been built for the narrow-gauge (3'6") tracks. The change to standard gauge (4'8 1/2") involved the entire rebuilding of the cars and trucks in both cities. It was at first thought that the axles on the cars might be lengthened and the wheels spread apart so as to adapt the cars to standard gauge, but this resulted in unsightly and unsatisfactory cars. Consequently, it was necessary to substitute new cars for the narrow-gauge type. Cars selected for the 4th Ave. line were modified horse cars of Pullman's latest design, having previously been pulled by two horses. The bodies of these cars were removed from the horse car trucks and installed on heavy four-wheel trucks especially designed to receive electric motors.

FIRST ELECTRIC OPERATION: Reconstruction of the 4th Ave. line proceeded rapidly, so that it was ready for the first experimental cars on 24 December 1889. Electric power was furnished from an engine and generator located in the old Pray Mfg. Co.'s building at 5th Ave. S. & 1st St. A few expert motormen were imported from the east to operate the first cars and to educate the horse car drivers so that the maximum number of cars could be put in service when the line started regular operation. The public interest in this first electric line was evidenced by the close observation on the part of all classes of people of the progress of construction from day to day. They eagerly awaited the announcement of the day when the line would be opened for regular service. On that memorable occasion, crowds of spectators lined both sides of the route, and at the post office terminus large numbers of people were waiting for the opportunity to take the first electric car ride.

Various theories were expressed by the public regarding this new motive power. Many persons watched with alarm the operation of the electric cars as they observed fire flying from the wheels and from the predictions were freely made that the first heavy snow storm would settle the electric

railway and put it out of business. Drivers were afraid their horses would be killed if the animals stepped on the street car tracks, and a great many people were afraid of the effect of the first lightning storm on the cars with their loads of passengers. All of these apprehensive theories have since proved to be unfounded.

(From the Daily Papers of Dec. 24, 1889)

IT'S OPEN!

4TH AVE. ELECTRIC LINE IN COMPLETE OPERATION

At exactly 4 o'clock yesterday afternoon, 8 new electric cars on the 4th Ave. Line began to move from 2nd Ave. S. on 3rd St. for the first time for the transportation of the public. The drivers and conductors, with long ulster coats buttoned all the way with brass buttons, filled out their chests, looked straight ahead and felt even more dignified than the passengers aboard, who looked out upon their friends standing upon the pavement. Ding, ding, ding, round the corner and straight out 4th Ave. the cars swept majestically, while the hundreds of onlookers pronounced them "Just the thing" as they ran along as smooth as is possible to be conceived. As the last one turned the corner and entered upon its long run, a Son of the Emerald Isle thrust his hands in his pockets and exclaimed, "Well, yees can hang the loikes of me! I've heard of people talkin' through the tellmephone, and writin' letters on the tellmephone, but ridin' on electricity is too much. They'll find McGinty yet!"

During the remainder of the afternoon and evening and up to a late hour last night, the cars ran without interruption. Each car carried fully as many people during the time they ran as a 4th Ave. horse car did during an entire day. Everybody pronounced it a grand improvement, especially in the matter of time. The electric cars made the round trip in 48 minutes, while the horse cars made it in 64 minutes. The run to 16th St. is made in 14 minutes, while the horse cars run it in 16. The intention is to put on the remaining two cars today and from this on out to run on scheduled time.

EXCERPTS FROM AN 1892 RULEBOOK: Every person employed by the Company must devote himself exclusively to its service and must not connect himself directly or indirectly with any other trade or other business without permission from the officers of the Company.

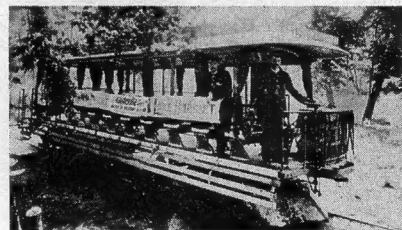
At no time shall more than two employees ride free on the same car, and should an employee find that number on the car, he will take the next.

In collecting fares, Conductor is not to collect several fares or a whole seat before ringing them up, but must register each fare promptly as collected. Passengers to be waited on as soon as they are comfortably located in the car.

Conductors of open cars will take special pains to seat passengers and, when necessary get off and point out seats to passengers who may desire to ride but think car is crowded.

Employees of this Company are forbidden to give any present of any kind to each other. Foremen will not accept cigars or other presents from employees under their supervision.

On delayed or crowded cars you will not be allowed to run by passengers at street crossings except on an order from the Superintendent of Foreman.



(The following are excerpts from a street railway magazine published in St. Paul.)

EARLY ELECTRIC LINES

March 1891: "It is evident that the various railroad companies running short line trains between St. Paul and Minneapolis are in somewhat of a quandary as to what policy to pursue on account of the great amount of business being done by the interurban electric line, which has greatly reduced the business of the above companies in the passenger traffic between the two cities. As new 30-foot cars are being continually added to the electric line to meet the demands made upon them it is evident that the steam lines will soon find their business far below a paying basis and be compelled to discontinue all but regular through trains."

April 1891: "TEN TRAINS STOP!" Slowly but surely the interurban electric cars have been undermining the passenger traffic of the short line railroads between Minneapolis and St. Paul. The number of passengers carried by the short line trains has fallen off 50% since the interurban cars were started. The Milwaukee (CM&STP) has been the greatest sufferer. The interurban enters into more direct competition with that line than with the Great Northern, as both the Milwaukee and the interurban reach Merriam Park and the more thickly settled portions of the Midway district. The Great Northern still has the traffic to and from St. Anthony Park, Hamline, and Como. Shortly after the interurban line started, the Milwaukee took off the ticket collectors on the short line trains. The volume of business had so decreased that they were no longer needed. Now it is proposed to reduce train service. Those trains which leave both St. Paul and Minneapolis at 7 & 9 a.m., and 3, 8, & 10 p.m., will be discontinued. The Milwaukee has several thru trains which will handle part of the business formerly allotted to the short lines. There will still be a train leaving Minneapolis at 3 p.m. & at 7 a.m., and one leaving St. Paul for Minneapolis at 3 p.m. The time of other thru trains will be changed slightly so as to partially supply the loss of the short line trains.

"It is understood that for sometime the Milwaukee Road has contemplated a reduction of the fare to 25 or 30 cents for a round trip between the cities, and the putting on of twice as many trains, or rather to have the present trains run half-hourly instead of hourly. By a reduction of the running time to 20 minutes which can be done with the powerful engines that have been purchased during the past year, no additional train crews would be needed and the wear and tear on the rolling stock would be the only considerable increase of expense. The reduction in price and running of trains half-hourly in addition to quickening the time of running, would have doubtless greatly increased the popularity of the short line, and would have won back much of its former patronage. This plan was knocked in the head by the agreement with the Great Northern, which has not felt the competition of the electric line so severely, and therefore does not wish to make the change. If the line (electric) that is being petitioned for extensively to run thru the northern part of the Midway district is put in, the GN will be more ready to concede to the demands of the public; so the day of cheap fares and quick time between the Twin Cities over both short lines (steam) is evidently not far distant; as the contemplated reduction of the number of trains will doubtless prove unsatisfactory and will drive more people than ever to the electric line."

May 1891: "The great convenience which the interurban street car service has been to the traveling public of Minneapolis and St. Paul, as well as the need for a similar improvement in the handling of light freight, has caused a discussion of whether the street car company could not be induced to carry freight between the two cities. One of the schemes proposed is to work the line conjunction with the American District Telegraph Company's of the two cities. A car could run every hour as a trailer to a common passenger street car. While it was going around the loop, it could discharge its freight upon a wagon while another was loading it up with goods."



Recognize it? This is Hennepin Ave. back in 1896, complete with center poles and single-track cars. The camera was pointed south from Bridge Square. After 1908 no center poles remained in city streets.

Previous to 1896, the only paving was oil-top, old-fashioned untreated cedar blocks laid upon pine boards, or granite blocks laid on a sand base. After an extended period of investigation to decide on an improved type of pavement, the city councils made contracts in 1896 for the paving of the business district streets with asphalt. TCRT made a vigorous protest against the use of this material in or adjacent to car tracks, as the life of this paving depended on an absolutely rigid foundation, and it was not thought possible wholly to prevent vibration due to the passing of street cars. The rails were laid in Portland cement, with welded joints, thus making a continuous track. Vehicular traffic was kept off the streets for fourteen days to allow the concrete to harden. This resulted in serious delays to service and a consequent loss of business. The paving adjacent to the tracks disintegrated in two years, and the ensuing repairs continued to 1906. To remedy this, the company adopted a new method as follows: Six inches of crushed rock was thoroughly rolled by steam rollers; ties were laid two feet apart on this base, then 91-lb rails were spiked to the ties. The space between the ties was filled with firmly-tamped concrete, and the spaces between all rails then paved with granite blocks, held in place by cement. This cost twelve dollars per running foot of double track, or over \$60,000 per mile. In 1909, only five percent of the TCRT mileage in city streets

remained as it was in 1896, and that was to be rebuilt during 1909.

Constant rebuilding has been done throughout the years. The heaviest rail in use at the present time is 102 to 114 pounds. Switches in the city streets and in carhouse and yard tracks, are of the tongue-and-groove type. Railroad-type switches are used on PRW track and in the track department yards at the Snelling shops. Electric track switches are used extensively at busy points.

The original trolley wire used was 2/0 grooved. TCRT was not satisfied with this, and between 1922 and 1931, over eighty percent of the old wire was replaced with new 3/0 round trolley wire. The latter is used exclusively today.

The first electric lines in both cities had both center-pole and span-wire suspension for the trolley wire. The 4th Ave. line in Minneapolis was the first to be entirely span-wire. Lines built before 1896 had the center-pole suspension predominating, but this was replaced with span-wire by 1908. A few short stretches with the ornamental center poles remained, such as the Como Park prw, and the last two blocks of the Minnehaha Falls line.

Wooden poles were used on all of the suburban lines, and on several city lines. Most city lines today have the iron poles which the company developed and adopted as standard. Several experiments were made in the use of concrete poles, but they never attained wide-spread use, the remaining installation being the eight blocks on 50th St. of the Oak-Harriet line.

PERSONALITIES: An early-day street railway magnate, Colonel W. S. King, one of the organizers of the ill-fated attempt at installing horse cars in Minneapolis in 1873, did not lose faith in the project. He was a newspaperman of the dynamic type who had been editor of the State Atlas and then became one of the founders and principal owners of the Minneapolis Journal. Colonel King believed the street railway in Minneapolis had a future, and when Thomas Lowry came to him with a proposal that they revive the project and get the horse cars moving, the two joined forces.

Thomas Lowrey was a young man with lots of ambition and energy which was channeled into two lines. One, in general, was to do some worthwhile things for Minneapolis, where he had come to make his home eight years before. The other, more specific, was to evolve some means of transportation that would take people out to look at vacant lots that he owned at the edge of town, and then to take them back and forth to work in case they built homes. He had come to Minneapolis as a lawyer and practiced law at the start, but took on the sale of lots, houses, and business blocks as a side line, and was more real estate dealer than attorney in 1875.

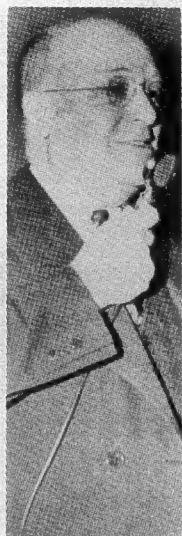
Minneapolis would have had street car lines sooner or later, but it is doubtful if they would have developed so rapidly or been in operation so early without the leadership of Thomas Lowry, a builder as well as a master organizer. Mr. Lowry became vice-president and general manager of the Minneapolis Street Railway when it was reorganized in 1875. The company was capitalized at \$250,000, and it was Mr. Lowry's first task to raise the money, which was an important sum in those days. He got help from the same industrialists of Illion, N.Y. who had furnished some of the equipment for Minneapolis's first venture into street car transportation in 1873.

Mr. Lowry had never been a financier, but he learned fast. He never hesitated to borrow all the money he could get his hands on to extend or improve the street railway and buy new equipment for it. He pledged his own resources and credit to secure the loans, and always saw to it that they were repaid. He kept firm control of the early operations, but left the details to carefully-chosen assistants while he concerned himself mainly with the big problems of financing, and became president in 1877.

Incident abounded of the novel but always ethical methods he sometimes employed, for stories of Lowry's financial maneuvers drifted back from the east. One told of how Mr. Lowry, discouraged by the obstacles his little street car system was encountering, went to Boston in hopes of selling it outright. Banks and financial houses were closed when he got there but he wandered around and found a bookkeeper at work. The latter gave him a lesson in finance and urged him to issue bonds against the car system for \$500,000, one-fifth more than the price at which he had planned to sell. Mr. Lowry caught the idea. His first big-scale financial operation proved successful and the company was built up gradually to a sound basis of capitalization that provided ample working funds.

The incorporation of the Twin City Rapid Transit Company to purchase the Minneapolis Street Railway and the St. Paul City Railway was his next venture, which came about in 1886. After this great merger, began the period of greatest development, lacking the color of formative days, but picturesque in its work of expanding the traction system, from one that was still little above the one-horse stage, to a great metropolitan utility service. This saw the disappearance of the old horse cars, the shaping of plans which never materialized for the introduction of cable cars, and finally the installation of electric cars. The entire system was converted to electricity in two years, and several new lines built as well.

After electrification, passenger revenues began mounting, and the company started to pay off some of the big indebtedness that had been piled up by construction of the system, followed in ten to fifteen years by electrification. But only a short while later, GORT had to face the shock of its first great economic depression, the panic of 1893. It also encountered its first



Since 1936, these men have directed TCRT: At left, D. J. Strouse, long-time official of the company and president from 1936 to 1949 and the only one of the three to have any knowledge of the transit industry. In the center is Charles Green, New York financier, who revolutionized TCRT because it didn't pay dividends. At the right is Fred Ossanna, lawyer and politician, who directs TCRT today.

competition from a new form of transportation. This was the bicycle craze, which was at its height from 1893 to 1896. It was difficult to give the public an adequate idea of the extent to which the bicycles cut into the company's earnings, but Thomas Lowry guided the company thru this and other crises. Citizens of the Twin Cities were saddened by the great builder's death on February 11, 1909. A statue of Mr. Lowry was erected at the intersection of Hennepin and Lyndale Avenues, and a park northeast of this spot was named for him.

The system had been fortunate in that its destinies were in the hands of builders, men who keenly felt their responsibility for supplying transportation as good as their means would permit. As a result, there is one chapter in the annals of Twin City transportation that is different to a degree that made its street car service stand out in contrast with that of most cities. The system was never allowed to deteriorate, being aggressively maintained in line with modern standards all thru the lean years. Altho an extensive motor bus system was developed, the street car has been the big thing in the company's operations. The management never deviated from the high standards in street car equipment that were established by the early builders.

Calvin C. Goodrich succeeded Thomas Lowry as president in 1909, and served in that capacity till his death on December 21, 1915. He continued his predecessor's policies, and did much to coordinate the lines in both cities and the suburbs.

Thomas Lowry's son, Horace Lowry, succeeded Mr. Goodrich in 1915, and held the presidency until his death in 1931. He too, followed the standards set by his father and Mr. Goodrich, and under Horace Lowry the system reached its high mark, operating 1,021 cars over 530 miles of track. During this period, TCRRT undertook its first operation of buses, but only as feeders to existing trolley lines.

T. Julian McGill succeeded Horace Lowry in 1931, and remained president until his death on October 10, 1936. It was his lot to weather the great depression of 1931-33. The first major abandonments of trolley lines took place, the Lake Minnetonka and Stillwater suburban lines succumbing to buses. Also the conversion to one-man operation was started during his tenure.

D. J. Strouse succeeded Mr. McGill in 1936, and probably has had the most difficult problems to contend with. He guided the company thru the years of World War II and the decline in riding afterward. He introduced the PGC car to the Twin Cities in 1945, expressing the management's views at that time in the following manner:

"Believing that street cars are and always will be the best vehicle of mass transportation in areas of dense population, we have been working, planning, and digging to cut expenses, and at the same time furnish the best service that our resources will permit. We are convinced that the street car is as necessary to most people as it ever was. The thousands who have to ride street cars, and the other thousands who prefer to, are entitled to good cars and good service, and they are going to have them".

This outlook was changed in November of 1949 when Charles Green, a New York stockholder, won control of the company after a proxy battle. Prior to his acquisition of power, TCRRT's profits were being invested in new PCC cars and buses and modernization of the power plant. Because of this policy no dividends had been paid for many years, and it was Green's contention that the stockholders should receive some dividends and that he could pay these and provide good service at the same time. He also said that the company would convert all rail lines to bus operation by 1958. Upon his taking the presidency, the rehabilitation of equipment was discontinued, cars thereafter receiving only paint jobs and necessary repairs. Service was reduced, the main shops were shut down, and track maintenance was cut to a minimum. Much antagonism developed between Green and the city councils of both cities regarding methods used to reduce service. This caused several investigations to be launched into the company's affairs, one of which was by the Minnesota Railroad & Warehouse Commission. Gradually the breach was healed, and no further mention was made of bus substitution until the time when Green stated that many street car lines would be retained. A split soon developed between Green and his legal counsel, Fred A. Ossana, and another proxy battle was waged, from which Ossana emerged the victor. Ossana introduced additional economy measures, and further reduced service because of loss of patronage. An accelerated conversion plan was announced, to be completed by the end of 1954.

[illegible]

1949-1953

The well-nigh incredible scrapping of one of the world's best electric railway systems, that of the Twin City Rapid Transit Company, is one of the most sordid tales ever unfolded in the nation's press.

National attention was focused on the TCRT situation when Collier's Weekly in its September 29, 1951, issue published an article by Gordon Schendel entitled, "How Mobsters Grabbed a City's Transit Line." We recommend your reading this article and, although space forbids the republishing of it here, a summary of it is in order:

For about 60 years, TCRT had a completely unspectacular history until 1948 when Charles Green, a Wall Street speculator, chanced upon one of TCRT's annual reports. Conservatively managed for many years by prominent Twin City businessmen engrossed in their own large businesses, TCRT's policy was to use profits to pay off its \$14,000,000 bonded indebtedness. Too, the \$40,000,000 corporation with its 3,000 stockholders was spending millions more modernizing its rolling stock; this included buying new streetcars as well as new busses.

Green weighed the company's very strong financial position against its dividend payment record and decided he had uncovered a "sleeper." He bought 6,000 shares of TCRT stock and sat back awaiting dividends.

When no dividends appeared, Green sat down and wrote a letter to all 3,000 of TCRT's stockholders, demanding that they join him in ousting President Strouse and the directors. Strouse invited Green to Minneapolis for a talk, but the meeting was a stormy one and Green rushed back to New York City determined to wage a "proxy" fight to gain control.

Green hired a prominent Twin City lawyer, Fred A. Ossanna, to aid him in his battle. More letters went out from Green to stockholders, and in November, 1949, he was successful in obtaining control of the company. Green became president, Ossanna its legal counsel.

Green apparently wanted to show natives how a big-time New York operator worked; he went about this so belligerently and such a lack of diplomacy that he amazed even his own associates, who included with Ossanna some notorious underworld characters of the Twin Cities whose money bought them TCRT stock and a voice in its management. Green cut schedules relentlessly—forcing thousands of citizens to freeze on street corners for long waits during Minnesota's harsh sub-zero winter. He fired more than 800 employees—more than 25% of the total personnel. He demanded first a 15¢ fare, then 17¢. Worse, he completely discontinued lines with less patronage than he thought could be served profitably.

Outraged citizen groups besieged the State Railroad & Warehouse Commission and the newspapers denounced Green, but this failed to deter the man. He threatened to force a profit out of TCRT even if he had to auction off the cars and busses and sell the rails for scrap iron. In dead earnest he threatened to liquidate the entire St. Paul operation because of insufficient profit in it. Finally the State Railroad & Warehouse Commission obtained a court order temporarily restraining Green from abandoning any more lines without a hearing.

About this time, certain members of the new board of directors of TCRT decided to scuttle Green, whose heavy-handed tactics had so alienated the public. However, his shares were needed to keep the group in power and he was re-elected president in March, 1950, at the annual meeting.

On May 12th, his opposition acted. It was announced that Green had been stripped of his authority to act as company spokesman, and thereafter all official statements would come from Ossanna.

President Green and the ambitious Fred Ossanna now clashed repeatedly and bitterly over company policies. Green finally sold his stock (at an estimated \$100,000 profit) and Ossanna became head of the company.

Streetcars had no place in the plans of either Green or Ossanna, for reasons which are obvious. To help cut down the cars, who should next appear on the scene but the famous (or infamous) B. M. "Barney" Larrick, he of the notorious "Let 'em hang on the numbers" speech when he was National City

Limited Number For Immediate Sale ...

STREET CAR BODIES \$395.00

Direct constructed street car bodies, insulated, alarm windows, all weatherproof, and include seats, doors and wiring for electricity. In excellent condition.

LOOK AT THE MANY USES:
Lake cottages, bays, buildings, diners, etc., etc., etc.
Can afford, storage, etc., and use as street, etc.

PERFECT MOVE IT ANYWHERE!
It's easily done, any street, bay, etc., will move in 15 minutes or less. 24 miles a day. (distance not).

DIMENSIONS
Length ... 45'
Width ... 9'
Height ... 10'
WE ALSO HAVE BUSES FOR SALE

CAN BE SEEN ON OUR PROPERTY

TRANSPORTATION SALES CO.
HO 8272 1101 West of Maple, on 11th St. 312. After hours call ME 4481



Lines' hatchet-man in Los Angeles. Barney has been in his element ever since, scrapping streetcars by the hundreds, disposing of brand-new PCCs for a song, just to get them off the property, and buying fleets of diesel busses.

Green has slunk back to Wall Street and has made headlines since by repeating the same tactics—but his more recent victims include United Cigar-Whelan Stores and 20th Century-Fox Films.

Ossanna is in the saddle at present but as Chairman Lindquist of the State Railroad & Warehouse Commission warned in his report to the governor on March 22, 1951:

"The activities of this new stockholders' group, both before and after taking control, give good reason to fear that it may exploit the transit company for improper purposes."

One by one the streetcar lines have been abandoned, the car stations closed, and the cars scrapped or sold. The company hopes to pull down the last trolley in June, 1954 and such will probably be the case.

Thereafter, it will be impossible to call them the Twin Cities—they'll be just towns.

ABANDONMENTS: The Green-Ossanna crowd took about four years to undo what had taken the Lowrys and Strouse et al some sixty years to build. Here is a list of the abandonments:

St. Paul:

3 Nov 51	---	E. 7th St.-Mahtomedi
3 May 52	---	Dale Street
17 May 52	---	Maria Avenue
"	---	Randolph-Ford Plant
"	---	Rice Street
"	---	W. 7th-Fort Snelling
"	---	So. St. Paul-Invergrove
6 Sept 52	---	Payne Avenue
"	---	St. Clair Avenue
"	---	Snelling Avenue
1 Nov 52	---	Cherokee Heights
"	---	Grand Avenue
"	---	Hamline Avenue
10 July 53	---	Mississippi Street
"	---	Como Avenue
31 Oct 53	---	Selby Avenue
	---	University Avenue

Minneapolis:

16 Apr 50	---	Broadway
19 Aug 50	---	Cedar Ave.-28th Ave. So.
1 Aug 52	---	Ft. Snelling Shuttle
18 Oct 52	---	Grand Ave. So.
21 Feb 53	---	Bloomington Avenue
10 Apr 53	---	N. Washington
"	---	Cedar-34th Ave. So.
16 May 53	---	Central Avenue
10 Jul 53	---	Chicago-Penn-Fremont
"	---	Lake Street
*15 Dec 53	---	Bryant-Johnson
"	---	Plymouth-E. 25th St.
"	---	Minnehaha Falls-Fort Snell.
"	---	University Avenue
*1 Jun 54	---	Como-Oak-Harriet
"	---	Interampus
"	---	Nicollet-2nd St. NE.-Monroe
"	---	Glenwood-4th Ave. So.

* Tentative date.

The total cost of conversion was stated to be \$18,000,000, which includes cost of busses, modification of certain stations into garages, training programs, and other expenses. This figure does not include the loss on non-amortized depreciation of such items as power houses, track and underground cable removal. When all rail lines are finally abandoned, the loss on power stations, cars, track and wire will be at least \$10,000,000.

St. Paul approved the use of 51-passenger busses, which Minneapolis outlawed due to its axle-weight limits. Because of this, rail abandonments came about rapidly in St. Paul. In Minneapolis, TCRT stated it would remove six passenger seats from the 51-passenger busses if forced to comply with the weight limit of 18,000 lbs. on the rear axle. The development of the air-spring for busses by General Motors solved the problem, bringing the big busses under the load limit. Thereafter, Minneapolis abandonments resumed.

Conversion got hung up at the last minute in October, 1953, when the Minneapolis city council passed an ordinance requiring certain payments and guarantees on repaving streets; compromises were effected, but the four lines scheduled to go on October 31st were kept in service several weeks longer.

Major operating centers were disposed of in equally ruthless fashion: Duluth Station was closed May 17, 1952, and sold.

Nicollet Station was closed 10 July 1953 as a streetcar station; rebuilt to garage for busses.

North Side Station was closed 10 July 1953 as a streetcar station; rebuilt to garage for busses.

Lake Street Station was closed on 15 December 1953 (tentative); to be sold.

Snelling Station continued operating, but only with standard cars for the Minneapolis end of the interurban line, until December 15, 1953 (tentative). Its fate: 26 of the 37 acres will be sold in 1954 to become an urban shopping center. 11 acres at the Snelling & St. Anthony Aves. corner will be kept as St. Paul bus headquarters. New trainmen's quarters will be constructed there in 1954.

East Side Station will remain in service until approximately June 1, 1954, when it is expected that the last streetcar lines will be converted. This property will be sold.

The Main Powerhouse has been sold to the Northern States Power Company (along with three substations) for \$1,500,000.

All other substations, the St. Paul office building, rights-of-way, and a bus garage in St. Paul have been sold.

So the pillage of the electric railway system of the Twin Cities is just about complete. The old cars will run a few short months more, then with the turning of their last wheel, the final curtain descends. One cannot help but feel sorry for those who must continue to depend upon TCRT for their transportation in future years.

The subject of Operation may be approached from a multitude of directions. In the absence of a better way, we have taken up TCRT operation subject by subject, listing each by its own title.

INTERURBAN (MPLS.-ST. PAUL LINE): At the time this line was built (1890), Minneapolis and St. Paul were some distance apart. Between the two cities the country was open and the cars ran largely on private way. Therefore, the line was known as "The Interurban." Seven-minute headway was provided at that time, with running time being 54 minutes to St. Paul, 51 minutes to Minneapolis. This territory later built up solidly but the name "Interurban" stuck, being used even by the company itself. This line along University Ave. was always regarded as TCRT's best; it always got the newest cars and many other features not used on other lines. Its entire length in St. Paul was equipped with safety islands. The Interurban was the last line to operate in St. Paul, running until October 31, 1953.

DOUBLE TRACK: TCRT track mileage was about 95% double track. Red & green signal lights (with contactors on the trolley wire) were provided at each end of single-track sections except on the Mahtomedi line and the Fort Snelling shuttle. Since the demise of the Bryn Mawr line in 1939, no local route had a long enough stretch of single track to require an intermediate siding.

WYES & LOOPS: Practically all TCRT rolling stock was single-end, thus requiring either wyes or loops to reverse direction. The few loops were at W. Broadway & Washburn on the Robbinsdale line, at Washington Ave. N. & 42nd Ave. N. on the 38th & Camden line, at W. 44th St. & France Ave. S. on the Como-Harriet line, at Minnehaha Falls, at the Ford Plant, at both ends of the Inter-campus line, and at Phalen Park. Portable crossovers were used when necessary due to street or track repairs. Almost all switches were of the single-point or paved-street type, even in the yards; the few remaining railroad type switches being found on the Mahtomedi line, plus one at the end of double track on the Hopkins line.

OWL SERVICE: Hourly owl service was provided on most lines. Principal meeting points for owl cars were at 5th & Hennepin in Minneapolis and at 7th & Wabasha in St. Paul. Running time on the western ends of the Glenwood-4th Ave. S. and the Plymouth-E. 25th St. lines was sufficiently short to permit one owl car to cover both; leaving 5th & Hennepin, this car went first out Plymouth, then back downtown to 1st Ave. N., south to 7th St. N., then out the Glenwood line, returning to 5th & Hennepin in time for the next lineup.

STATIONS: Cars were assigned to the various stations (car houses) upon determination of the General Superintendent of TCRT. Each station placed its cars on its various tracks according to a definite pattern. This was so that each car got cleaned daily and inspected every other day for wheel and brake defects.

Loading of cars between stations was rare, due to the necessity of changing out the entire destination sign. Once a car was assigned to a particular station, it tended to remain there permanently.

Some lines were split between two stations to cut deadhead mileage.

SPECIAL EVENTS: TCRT early followed the general practice of electric railway companies of artificially stimulating passenger traffic by constructing large amusement parks at remote points on its lines (see Minnetonka and Stillwater lines).

Several bathing beaches were available within the city limits of Minneapolis, the principal ones being at Lake Calhoun, Lake Harriet, and Lake Nocomis.

The annual Minnesota State Fair was held at its own grounds, on the Como-Harriet line. During this or any other big event there, cars to and from other lines in both cities were run over the Como route direct to the Fair Grounds. Double loops with storage sidings enabled TCRT cars to handle enormous crowds here.

Other specials were occasionally operated. One was the Swedish Picnic at Minnehaha Falls

when every other Selby-Lake car leaving Lake & Hennepin ran through to Minnehaha Falls.

Band concerts given during the summer at ten city parks brought out big crowds, giving TCRT cars considerable extra business.

By 1920 the combination at Lake Harriet of concerts, pleasure boating and swimming made evening travel so large that a third track was constructed on the inbound side of the Private Way between Xerxes & Upton Aves.; extra cars were stored here evenings to meet the late rush about 10:00 PM. This was a double-end siding, but during the winter months the switch at the west end was removed.

SELBY TUNNEL: The line over Selby Hill in St. Paul was electrified in 1898 with a counterweight system using old cable cars, the regular electric cars being pushed uphill and led downhill. The grade on this stretch was stated as being 16%.

In connection with plans to form a new intercity route over the Lake St. bridge to Minneapolis, it was decided to build a tunnel under Selby Hill. Completed in 1907, the tunnel required the removal of 43,200 cubic yards of earth and 2100 cubic yards of rock. It is 1500 feet long on a 7% grade, 50 feet below the surface at its deepest point, 23 feet wide and 15 feet high after being lined with reinforced concrete. TCRT required motormen to take a minimum of one minute and fifty seconds downgrade between portals.



Comparison: one of the "big" PCCs beside the 299 at 5th & 5th, Mpls.

CONDUCTORS: Most TCRT lines went one-man in the early '30s, but a half dozen heavy lines and the Inter-campus Special continued to use conductors; these were:

Como-Harriet	Two-man till end, 7-10-53
Oak-Harriet	Finally 1-man on 10-25-49
Inter-campus	Still two-man
Nicollet-2nd	Finally 1-man on 7-1-49
Selby-Lake	" " " 4-4-52
Chi-Penn-Fre	" " " 8-6-51
Interurban	Two-man till end, 10-31-53

As with other companies, TCRT was faced with the problem of aged conductors unable to operate one-man cars but not old enough for retirement. Como-Harriet and Interurban were kept partly two-man for them; as of mid-1953, six conductors were left on the Interurban, and ten left on Como.

FREE LINES: Yes, there were lines in the Twin Cities which did not charge you to ride them. The Fort Snelling Shuttle never collected a fare, and Burns Ave. extension to the Maria line was similarly untainted by commercialism. The reason? The Burns Ave. line, for instance, was ordered run by the City Council. It took in \$3.00 a day, wages were \$5 per man, hence a two-man crew collecting fares would cost TCRT \$7 per day—but a one-man crew and free rides would cost but \$5 per day. So the Burns Ave. line witnessed the stimulating spectacle on wash-days of mothers putting up lunches for their youngsters, putting the kids on the car to ride all day—free!

ST. PAUL LICENSES: The city of St. Paul early ordered TCRT to purchase annual licenses for all cars operated within its city limits. TCRT was successful in deterring Minneapolis from following a like course. St. Paul charged \$25 per car per year, and the small metal numbered license plate was affixed to the rear bulkhead on the conductor's side. Licensed cars were kept within St. Paul as much as practicable; non-licensed cars weren't operated inside St. Paul city limits.

ANTI-STRAPHANGER ORDINANCE: An anti-straphanger ordinance was enacted in the Twin Cities in 1913 and was in effect for several years. It was enacted to stop complaints about overcrowding of cars. This ordinance stated that between the hours of 5:00-8:30 AM, 11:30-2:00 PM and 4:30-6:30 PM no more than 84 passengers were to be carried on any one car. TCRT told its conductors that if more than 84 crowded on when he announced that the car was full, he should obtain the statements of five witnesses who were not among the ones crowding on to absolve himself of blame.

REMINISCENCES: Sig Severson, a retired TCRT motorman (now living at 1420 Jesse St., St. Paul) recalls the days when he used to carry convention parties to the amusement parks.

"Passengers would often leave tips or big lunches for the crews on these special occasions. Often, on Saturday nights, the drunks riding home would try to give you a bottle of liquor or a drink, but the company's rules forbade that. The rulebook also said that we couldn't take home the dead pheasants that crashed through the windshield either, but we all did. They made the best Sunday dinners ever. Pheasants weren't the only things the fast cars to Stillwater or Minnetonka killed; one motorman had a record of five cows.

"Automobiles changed all that, though. When people started driving in the '20s, I knew the lines couldn't last."

Coming more up to the present time, Fred Howarth recalls:

"For my first assignment after completing student training, I drew the head end on a Saturday evening Selby-Lake run. As luck would have it, an unseasonable (May 12, 1946) blizzard had blown into town, and my confidence was further unbolstered by having a 19-year old girl for conductor. However, outside of being twenty minutes late the first trip, no untoward incidents occurred, and by making short turn-arounds, I was back on time after my third trip.

"On Selby-Lake again several weeks later, there was a major tieup in St. Paul because of a parade. On this occasion it took me so long to get in and out of downtown St. Paul that I was a whole one-way trip (55 minutes) late, being due out of Hennepin & Lake at the time I left 3rd & Wabasha.

"Working out of Lake Street Station, my time was divided among the six lines based there: Selby-Lake, Plymouth-E. 25th, Fort Snelling, 34th Ave. S.-N. Bryant, 28th Ave. S.-Robbinsdale, and Bloomington-Columbia Mts. In general, Plymouth-E. 25th was the easiest line on which to make scheduled time, altho Bloomington-Columbia Heights had the least joint track with other lines."

DESTINATION SIGNS: TCRT was one of the few electric railway companies not to adopt roof destination boxes. It was unique also in that it did not designate lines by numbers or letters. It was further unique in that it used black letters on a white background on its standard-car signs; its lightweights and PCCs had the usual white lettering on black. Not until 1949 did some standards receive this type of sign.

There were two destination signs per standard car: at the front of the deck roof and at the side of the deck roof toward the rear. Each of these signs was of the roller type with room for 30 readings.

A complete list of destination signs in use on TCRT in the years 1919 and 1938 follows on the next page, designated by car stations: North Side (N.S.), East Side (E.S.), Lake Street (Lake), Nicollet (Nic.), Snelling (Snell.) and Duluth (Dul.). In addition, signs used by the Stillwater local cars operating out of Owen Street Station in Stillwater have been included.

In this tabulation, cars using the signs are referred to by motors and/or type of service: GE 200 cars are "fast" city cars with GE 200, 213 or 216 motors; GE 67, 70 and "Local" cars are city cars with smaller motors; Tonka, Stillwater and "sub." cars refer to the suburban cars (1112-1123, 1145-1163, 1255-1265), the fastest cars on TCRT.

DESTINATION SIGN LIST, MINNEAPOLIS, 10-24-19:

SIGN	CARS				
1. FAIR GROUNDS	All cars	9. ST. PAUL-STILLWATER	Dul. suburban cars	12. OAK-HARRIET	E.S. cars
2. CIRCUS GROUNDS	Nic. and N.S. cars	10. ST. PAUL-WILDWOOD	All Dul. cars & Snell.	13. OAK-XERKES	E.S. cars
3. BALL GROUNDS	Nic. and N.S. cars		GE 200 cars	14. LAKE HARRIET	All cars
4. CHARTERED	All cars	11. HAZEL PARK	All Dul. cars	15. HENNEPIN TO LAKE	E.S. cars
5. NOT IN SERVICE	All cars	12. MAHTOMEDI	All Dul. cars	16. E. 25TH STREET	Lake & E.S. cars
6. TO STATION ONLY	Nic. & N.S.; E.S., Tonka	13. WHITE BEAR	All Dul. cars	17. BRYANT-JOHNSON	Nic. & E.S. cars
7. FOOTBALL FIELD	Nic, Lake, E.S. (all)	14. MAHTOMEDI-WHITE BEAR	Dul. sub. cars	18. BRYANT TO 38TH	Nic. & E.S. cars
8.	All cars	15. WILDWOOD	Dul. sub. cars	19. BRYANT TO 56TH	Nic. and E.S. cars
9. TONKA BAY	E.S. Tonka & GE 200s	16. TO MINNEAPOLIS	Snell. GE 70-200 cars	20. BRYANT TO 54TH-PENN	Nic. & E.S. cars
10. LAKE MINNETONKA	E.S. Tonka & GE 200s	17. TO MINNEAPOLIS-6TH AVE.	Snell. GE 70-200	21. LYNDALDE TO LAKE	Nic. & E.S. cars
	Lake GE 200s, all	18. TO ST. PAUL	Snell. GE 70-200	22. GLENWOOD	Nic. cars
	Nic. & N.S. cars	19. UNIV. TO SNELLING	All Snell. cars	23. 4TH AVE. TO 38TH	Nic. cars
11. EXCELSIOR LIMITED	E.S. Tonka, GE 200s	20. CITY LIMITS	Snell. GE 70-200	24. 4TH AVE. TO 48TH	Nic. cars
12. EXCELSIOR EXCURSION	E.S. Tonka & GE 200s	21. COMO PARK	All cars	25. GLENWOOD TO ALDRICH	Nic. cars
	Lake GE 200s, all	22. SELBY TO SNELLING	Snell. GE 200 cars	26. 4th AVE. TO LAKE	Nic. cars
	Nic. & N.S. cars	23. TO PRIOR	Snell. GE 200 cars	27. LOOP	Nic. cars
13. DEEPHAVEN	E.S. Tonka, GE 200s	24. MERRIAM PARK	Snell. GE 200 cars	28. GRAND-MONROE	Nic. & E.S. cars
14. HOPKINS	E.S. Tonka cars	25. HAMLINE-UNION DEPOT	All Snell. cars	29. NICOLLET TO 58TH	Nic. cars
15. COMO-HOPKINS	E.S. GE 200s	26. GRAND TO SNELLING	All Snell. cars	30. NICOLLET TO 54TH	Nic. cars
16. LOOP	All E.S. cars	27. GROVELAND	All Snell. cars	31. NICOLLET TO 48TH	Nic. cars
17. COMO TO MPLS. LOOP	E.S. GE 200s	28. LOOP	All Snell. cars	32. NICOLLET TO 38TH	Nic. cars
18. EAST MPLS. STATION	E.S. local cars	29. PAYNE-PHALEN	All Snell. cars	33. NICOLLET TO 32ND	Nic. & E.S. cars
19. COMO AVE. TO EUSTIS	All E.S. cars	30. PAYNE	All Snell. cars	34. N. W. TERMINAL	Nic. cars
20. COMO-HARRIET	All E.S. cars	31. PAYNE TO DULUTH	All Snell. cars	35. 2ND ST. N.E.	Nic. cars
21. OAK-HARRIET	All E.S. cars	32. DALE-FOREST	All Snell. cars	36. 2ND ST. N.E. TO LOWRY	Nic. cars
22. OAK-XERKES	All E.S. cars	33. DALE-PHALEN	All Snell. cars	37. SELBY-LAKE	Nic. cars
23. LAKE HARRIET	All cars except licensed Lake St. Cars	34. WESTERN-S. ROBERT	All Snell. cars	38. LAKE TO 36TH	Nic. & Lake cars
		35. DALE	All Snell. cars	39. LAKE TO 22ND	Lake cars
		36. RICE-CONCORD	Dul. local cars	40. TO PRIOR	Lake cars
		37. SOUTH ST. P.-MARIE	Dul. locals, Snell. GE 67-70 cars	41. TO SNELLING AVE.	Lake cars
24. 15TH & COMO	All E.S. cars	38. SOUTH ST. P.-6TH	Dul. locals & Snell. GE 67-70 cars	42. FORT SNELLING	Lake & N.S. cars
25. HENNEPIN TO LAKE	All E.S. cars	39. INVER GROVE	Dul. local cars	43. MINNEHAHA FALLS	N.S. cars
26. CALHOUN BEACH	E.S. local cars	40. RICE	Dul. local cars	44. MINNEHAHA-PLYMOUTH	Lake cars
27. ROBBINSDALE-ST. LOUIS	E.S. local cars	41. LOOP	All Dul. cars	45. RIVERSIDE TO LAKE	Lake cars
28. BRYN MAWR	E.S. GE 67-70 cars	42. ST. CLAIR TO SNELLING	Dul. local cars	46. LOOP	Lake cars
29. KENWOOD-25TH	All E.S. cars	43. ST. CLAIR-HOPE	Dul. local cars	47. BLOOMINGTON-COL. HTS.	Lake & E.S. cars
30. MONROE-BRYANT	Nic. cars	44. SEVENTH-SNELLING	All Dul. cars	48. BLOOMINGTON-CENTRAL	Lake & E.S. cars
31. BRYANT TO 38TH	Nic. cars	45. SEVENTH-RANDOLPH	All Dul. cars	49. CENTRAL TO 40TH	Lake & E.S. cars
32. LYNDALDE TO LAKE	Nic. cars	46. SNELLING TO GRAND	Dul. locals, all Snell.	50. BLOOMINGTON TO LAKE	Lake & E.S. cars
33. GLENWOOD	Nic. and N.S. cars	47. SNELLING TO RANDOLPH	Dul. locals & all Snell. cars	51. BLOOMINGTON TO 38TH	Lake & E.S. cars
34. WESTERN-4TH AVE.	Nic. cars	48. FORT SNELLING	All Dul. cars	52. ROBBINSDALE-FRANKLIN	E.S. & N.S. cars
35. WESTERN TO ALDRICH	Nic. cars, E.S. GE 67-70 cars	49. SEVENTH	All Dul. cars	53. 34 AVE. S.-H. BRYANT	Lake & N.S. cars
		50. JACKSON-STRIKER	Dul. local cars	54. 38TH-CAMDEN	Lake & N.S. cars
36. 4TH AVE. TO LAKE	Nic. cars	51. MISS.-CHEROKEE HTS.	Dul. local cars	55. 46TH-CAMDEN	Lake & N.S. cars
37. LOOP	Nic. cars	52. RONDO-MARIA	All Dul. cars	56. 2ND AVE. S.-N. EMERSON	Lake & N.S. cars
38. GRAND-JOHNSON	Nic. cars, all E.S. locals except lic.			57. CEDAR TO 42ND	Lake & N.S. cars
				58. CEDAR TO LAKE	Lake & N.S. cars
39. NICOLLET TO 54TH	Nic. cars			59. N. WASH. TO 26TH	N.S. cars
40. NICOLLET TO 50TH	Nic. cars			60. LOOP	N.S. cars
41. NICOLLET TO 38TH	Nic. cars			61. CHICAGO-FREMONT	N.S. cars
42. NICOLLET TO HIGH	Nic. cars			62. CHICAGO-PENN	N.S. cars
43. NICOLLET TO 31ST	Nic. cars, all E.S. locals except lic.			63. CHICAGO-EMERSON	N.S. cars
				64. CHICAGO TO LAKE	N.S. cars
44. 2ND ST. N.E.	Nic. cars			65. BROADWAY	N.S. cars
45. 2ND ST. N.E. TO LOWRY	Nic. cars			66. BRYN MAWR	N.S. cars
46. SELBY-LAKE	Lake GE 200 cars				
47. LAKE TO 36TH	Lake & Nic. cars				
48. LAKE TO 22ND	Lake cars				
49. TO PRIOR	Lake licensed cars only				
50. TO SNELLING AVE.	Lake licensed cars only				
51. SNELLING-MINNEHAHA	Lake GE 200s & N.S.				
52. FORT SNELLING	All Lake and E.S. cars				
53. MINNEHAHA FALLS	Nic. and E.S. cars				
54. MINNEHAHA-PLYMOUTH	All Lake cars				
55. WASHINGTON-RIVERSIDE	All Lake cars				
56. FRANKLIN-11TH	All Lake cars				
57. RIVERSIDE TO LAKE	All Lake cars				
58. LOOP	All Lake cars				
59. BLOOMINGTON-CENTRAL	All Lake cars & E.S. local cars				
60. BLOOMINGTON-COL. HTS.	All Lake cars & E.S. locals				
61. CENTRAL TO 40TH	All Lake cars & E.S. locals				
62. BLOOMINGTON TO LAKE	All Lake cars & E.S. locals				
63. CEDAR	All Lake cars				
64. WOKOMIS-CAMDEN	All Lake & N.S. cars				
65. 50TH-CAMDEN	All Lake & E.S. cars				
66. 38TH-CAMDEN	All Lake & E.S. cars				
67. CEDAR TO LAKE	All Lake & E.S. cars				
68. N. LYNDALDE TO 51ST	All Lake & E.S. cars				
69. WASH. TO N. 24TH	N.S. cars				
70. LOOP	N.S. cars				
71. CHICAGO-FREMONT	N.S. cars				
72. CHICAGO-PENN	N.S. cars				
73. CHICAGO-EMERSON	N.S. cars				
74. CHICAGO TO LAKE	N.S. cars				
75. BROADWAY-20TH	N.S. cars				

INTERCAMPUS SPECIAL E.S. cars 1079-1084

ST. PAUL LIST, 10-24-19:

1. FAIR GROUNDS	All cars
2. CIRCUS GROUNDS	All cars
3. BALL GROUNDS	All Dul. cars
4. CHARTERED	All cars
5. NOT IN SERVICE	All cars
6. TO STATION ONLY	All Dul. cars
7. FOOTBALL FIELD	All Snell. cars
8.	All cars

9. ST. PAUL-STILLWATER	Dul. suburban cars
10. ST. PAUL-WILDWOOD	All Dul. cars & Snell. GE 200 cars
11. HAZEL PARK	All Dul. cars
12. MAHTOMEDI	All Dul. cars
13. WHITE BEAR	All Dul. cars
14. MAHTOMEDI-WHITE BEAR	Dul. sub. cars
15. WILDWOOD	Dul. sub. cars
16. TO MINNEAPOLIS	Snell. GE 70-200 cars
17. TO MINNEAPOLIS-6TH AVE.	Snell. GE 70-200
18. TO ST. PAUL	Snell. GE 70-200
19. UNIV. TO SNELLING	All Snell. cars
20. CITY LIMITS	Snell. GE 70-200
21. COMO PARK	All cars
22. SELBY TO SNELLING	Snell. GE 200 cars
23. TO PRIOR	Snell. GE 200 cars
24. MERRIAM PARK	Snell. GE 200 cars
25. HAMLINE-UNION DEPOT	All Snell. cars
26. GRAND TO SNELLING	All Snell. cars
27. GROVELAND	All Snell. cars
28. LOOP	All Snell. cars
29. PAYNE-PHALEN	All Snell. cars
30. PAYNE	All Snell. cars
31. PAYNE TO DULUTH	All Snell. cars
32. DALE-FOREST	All Snell. cars
33. DALE-PHALEN	All Snell. cars
34. WESTERN-S. ROBERT	All Snell. cars
35. DALE	All Snell. cars
36. RICE-CONCORD	Dul. local cars
37. SOUTH ST. P.-MARIE	Dul. locals, Snell. GE 67-70 cars
38. SOUTH ST. P.-6TH	Dul. locals & Snell. GE 67-70 cars
39. INVER GROVE	Dul. local cars
40. RICE	Dul. local cars
41. LOOP	All Dul. cars
42. ST. CLAIR TO SNELLING	Dul. local cars
43. ST. CLAIR-HOPE	Dul. local cars
44. SEVENTH-SNELLING	All Dul. cars
45. SEVENTH-RANDOLPH	All Dul. cars
46. SNELLING TO GRAND	Dul. locals, all Snell.
47. SNELLING TO RANDOLPH	Dul. locals & all Snell. cars
48. FORT SNELLING	All Dul. cars
49. SEVENTH	All Dul. cars
50. JACKSON-STRIKER	Dul. local cars
51. MISS.-CHEROKEE HTS.	Dul. local cars
52. RONDO-MARIA	All Dul. cars

OWEN ST. STATION DESTINATION SIGNS, 10-24-19:

1. WILKIN ST.	6. ST. PAUL-STILLWATER
2. OWEN ST.	7. STATE PRISON
3. S. STILLWATER	8. BALL GROUNDS
4. TO STATION ONLY	9. NOT IN SERVICE
5. UNION DEPOT	10. CHARTERED

NOTES: There was only one set of readings for all cars at Nicollet Station, and only one set for all cars at North Side.

High speed Minnetonka and Stillwater cars at East Side and Duluth Stations had special sets of signs for the suburban runs, plus a few local signs to be used in the winter by such cars as lost their high speed motors to the snowplows. The Tonka cars always had signs for the Kenwood line, and the Stillwater cars had signs for Rondo-Maria.

At Snelling, East Side, and Lake St., there were different lists of signs for the faster GE 200 motored cars, and for the older, slower GE 67 and GE 70 motored cars. At this time in 1919, the 700s, 800s and about half the 900s had GE 67 motors; other 900s, 1000s, 1100s & 1200s had GE 70s. The suburban cars with GE 73 motors were 1112-1121, 1145-1163, 1255-1265.

At Lake St. and East Side, certain readings were added to, or omitted from, sign rolls of cars with St. Paul licenses. This usually applied to fifty or more cars at each station.

Many cars had readings of lines which did not belong to their station, but which were used for extras and special service. A part of the Grand-Johnson runs belonged to East Side but only their older cars had these signs.

MINNEAPOLIS DESTINATION SIGN LIST, 11-21-38:

1. FAIR GROUNDS	All cars
2. CHARTERED	All cars
3. NOT IN SERVICE	All cars
4. EAST MPLS. STATION	E.S. cars
5. LOOP	E.S. cars
6. COMO-HARRIET	E.S. cars
7. COMO-HARRIET TO 50TH	E.S. cars
8. COMO-HARRIET TO 54TH	E.S. cars
9. COMO-HOPKINS	E.S. cars
10. COMO TO MPLS. LOOP	E.S. cars
11. COMO AVE. TO EUSTIS	E.S. cars

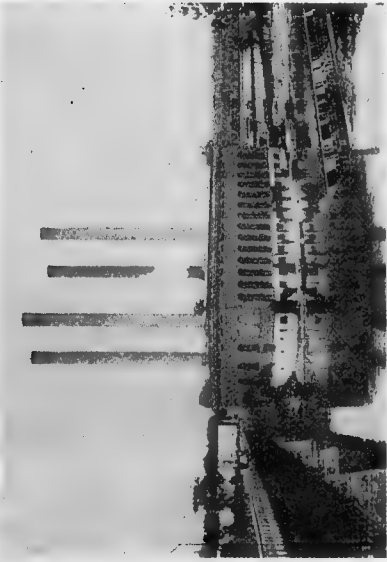
INTERCAMPUS SPECIAL E.S. cars 1146-1149

ST. PAUL LIST, 11-21-38:

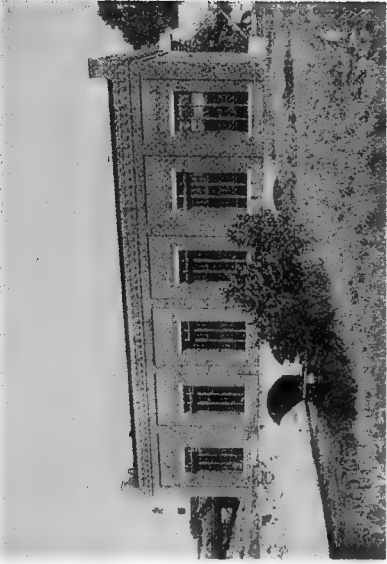
1. FAIR GROUNDS	All cars
2. CHARTERED	All cars
3. NOT IN SERVICE	All cars
4. TO STATION ONLY	Dul. cars
5. HAMLINE-STRIKER	Snell. cars
6. TO MINNEAPOLIS	Snell. cars
7. TO MINNEAPOLIS-6TH AVE.	Snell. cars
8. TO ST. PAUL	Snell. cars
9. UNIV. TO SNELLING	Snell. cars
10. CITY LIMITS	Snell. cars
11. SELBY-LAKE	Snell. cars
12. SELBY TO SNELLING	Snell. cars
13. TO PRIOR	Snell. cars
14. LOOP	Snell. cars
15. GRAND AVE.	Snell. cars
16. GRAND TO SNELLING	Snell. cars
17. DALE-FOREST	All cars
18. DALE-PHALEN	All cars
19. SNELLING TO RANDOLPH	Snell. cars
20. SNELLING AVE.	Snell. cars
21. SNELLING TO COMO	Snell. cars
22. LOOP	Dul. cars
23. ST. CLAIR-PAYNE	All cars
24. ST. CLAIR TO SNELLING	All cars
25. MISSISSIPPI-CHEROKEE HTS.	Dul. cars
26. MISSISSIPPI TO BURR ST.	Dul. cars
27. RICE-SO. ST. PAUL	Dul. cars
28. SO. ST. PAUL-6TH	Dul. cars
29. SO. ST. PAUL-INVER GROVE	Dul. cars
30. TO ST. PAUL	Dul. cars
31. SEVENTH	Dul. cars
32. SEVENTH-SNELLING	All cars
33. FORT SNELLING	Dul. cars
34. HOPE-W. 7-47 AV.	Dul. cars
35. RONDO-MARIA	Dul. cars
36. RANDOLPH-HAZEL PARK	All cars
37. HAZEL PARK-NO. ST. PAUL	All cars
38. HAZEL PARK-MAHTOMEDI	All cars
39. HAZEL PARK-WILDWOOD	All cars
40. 7TH ST. TO DULUTH AVE.	All cars
41. RANDOLPH TO CLEVELAND	All cars



MPLS.: Lower Dam Hydro-Electric Power House



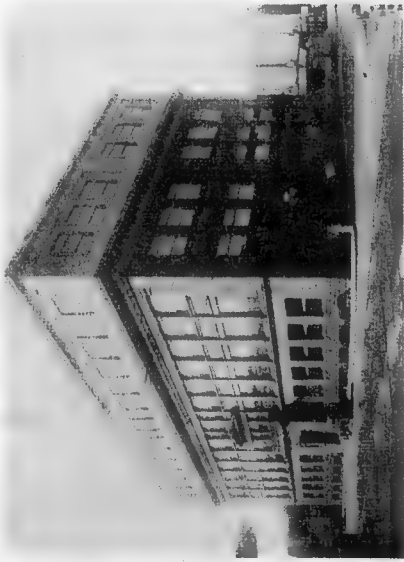
MPLS.: Steam Power House



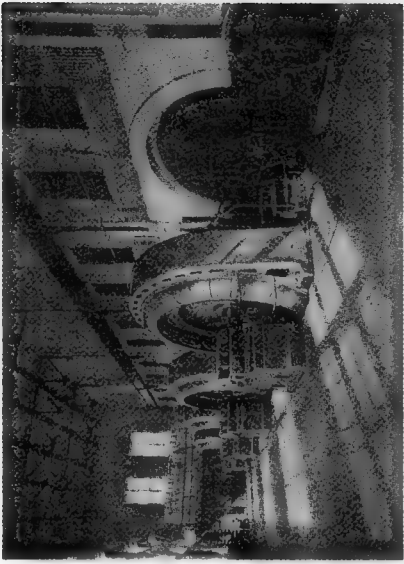
MPLS.: Hennepin Island Hydro Power House



MPLS.: Interior, Lower Dam Power House



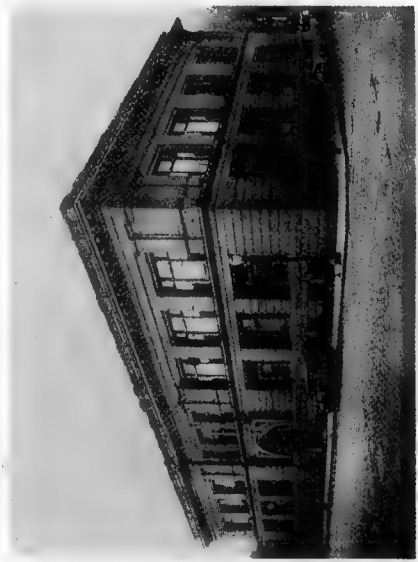
MPLS.: Office & Substation Building



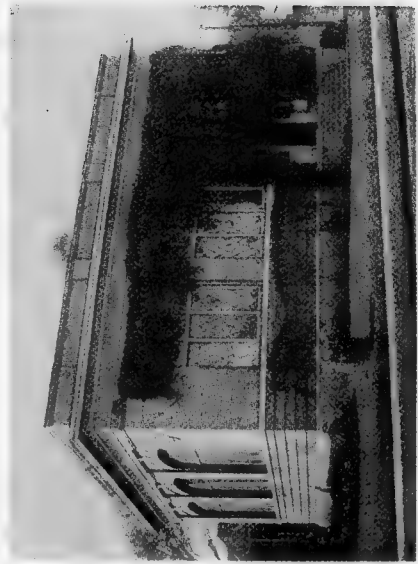
MPLS.: Interior, Hennepin Island Power House



ST. P.: Hope St. Substation



ST. P.: Office & Substation Building



MPLS.: University Substation

POWERHOUSES & SUBSTATIONS: After electrification of the St. Paul cable lines, the cable power house at E. 7th St. & Duluth Ave. was rebuilt into an electric car house, never again to be used for supplying either cable or electric power. The cable power house & car barn at Dale St. & Selby Ave. was retained until the counterweight line on Selby Hill was abandoned after construction of the tunnel in 1907, when it was replaced by the substation and car house at Snelling & University Aves.

Power for the first trolley operation in Minneapolis was furnished by three 80-hp compound generators turned by a 250-hp engine designed by Russell & Co. of Massillon, Ohio, with the latest type Hazelton "Porcupine" boilers. Electric power for the first line in St. Paul was purchased from the St. Paul Gas Light Co., which operated three 80-hp generators and accompanying apparatus for the purpose. All electrical equipment in both cities was installed by the Northwest Thomson-Houston Co., of St. Paul. The parent Thomson-Houston Co., of Lynn, Mass., was one of the predecessors of the General Electric Co.

Coincident with the rapid changeover from horse cars to electric cars, three new power houses were erected. The first one in Minneapolis was built as an addition to the car house at 3rd Ave. N. & 2nd St. Power apparatus here was composed of steam engines totalling 3,000 hp, connected to a main-line shaft by a 55-inch-wide leather belt, driving sixteen 175-kw (225 hp), 500-volt bi-polar Edison Generators. A central power house was constructed in St. Paul on Hill St. near W. 3rd St. Three steam 800-hp engines driving twelve 200-hp dynamos were in full operation by September 1891. The third power house was at 31st & Nicollet in Minneapolis, and supplied power for all lines south and east of Washington & Nicollet Aves.

With the acquisition of the St. Paul & White Bear RR, and the extension of that line to Stillwater in 1899, the ST&WB power house at North St. Paul was abandoned, and a steam power house built at Wildwood. The coal used there was hauled over the trolley company's Mahtomedi branch from the Northern Pacific Ry. connection at Mahtomedi. A substation housing two rotary converters was built at Owen St. in Stillwater to supply the local lines in that area. Substations for the Minnetonka lines were erected at 3rd Ave., Hopkins, and at a point just east of the docks in Excelsior.

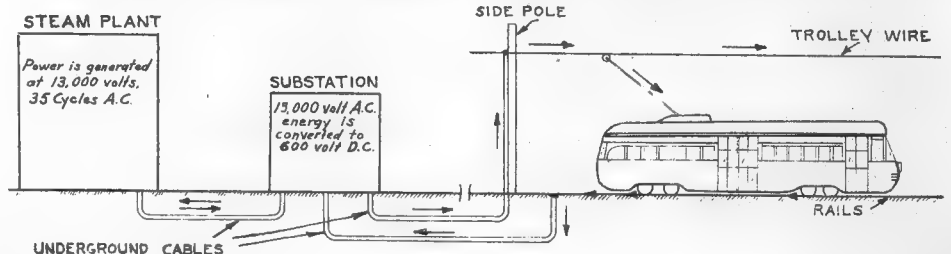
On 5 December 1896 a contract was made with the St. Anthony Falls Water Power Co. for the purchasing of power. Construction of the Lower Dam Water Power Station was started on the north bank of the Mississippi River near 10th Ave. S.E. in Minneapolis. When completed by the Pillsbury-Washburn Co. in December 1897, this plant had a capacity of 7,000 kw (10,000 hp) created by ten turbines of 1,000 hp each. Current was generated at 3,500 volts, and stepped up to 12,000 volts for transmission to the substations, which supplied 600 volts DC for trolley wires. Construction of the Lower Dam Power Station involved abandonment of the old station at 3rd Ave. N. & 2nd St., as the latter could not be made to operate harmoniously with the new power system.

It was apparent after a few years that the Lower Dam Station could not be relied upon for an uninterrupted supply of power, and that a large steam station with an adequate reserve capacity was necessary. This led to construction of a new comprehensive generating plant, on land adjacent to the Lower Dam Station. Placed in operation in December 1904, the Central Power House had a building 156 ft. by 255 ft. and 86 ft. high, comprised of a brick superstructure on a heavy limestone foundation. Generating apparatus consisted of three engine and turbine units with a maximum capacity of 27,000 hp (25,000 kw). The coal conveyors and crushers had a capacity of seventy-five tons per hour, while the bunkers held 3,000 tons. Current was generated at 13,200 volts AC, 35 cycles, for distribution to the substations.

Two office buildings were completed in 1904, each also housing a substation. Both were constructed of pressed brick with terra cotta trimmings. Roofs and floors

POWER HOUSES & SUBSTATIONS

SKETCH SHOWING TWIN CITY LINES ELECTRIC CURRENT CHARACTERISTICS AND THE NORMAL CIRCUIT FOLLOWED BY THE CURRENT FROM STEAM PLANT TO STREET CAR



Underground cables transmit 13,000-volt A.C. energy to Substations where it is converted to 600-volt D.C. energy and sent through other underground cables to overhead feeders along the line. Other underground cables carry the current from the rails back to the substations.

NOTE:

Most power plants today generate 60 cycle current rather than 35 cycle current which is the frequency for which our power plant and substations are designed. During the early period of street railway electrification it was considered that 35 cycle current was better suited for railway use which accounts for such variation from the present day standard 60 cycle power generation.

600 volt D.C. goes through feeder wires along side poles to the overhead trolley wires, passes through the controller into the car motors then to the car wheels and to the track rails which are bonded. The current thus flowing through the rails into the underground cables which return the current to the substation thus completing the circuit.



At the peak of cars operated (1924), about 5,000 streetcar motors were dependent upon the power generated and distributed by TCRT's network of generating plants and substations. (DJ via SM)

were of steel and concrete, making the structures entirely fireproof. The Minneapolis building was located at 11th St. and Hennepin Ave. As originally built, it was three stories high, with a floor area of 150 ft. by 80 ft., and housed the general offices plus the Minneapolis operating offices. A fourth floor was added a few years later. The St. Paul building was located at College Ave. and Wabasha St., and housed the St. Paul operating department. In 1951, the St. Paul offices were moved to the Minneapolis building, with the St. Paul structure being offered for rent except for the substation.

Upon completion of the two office buildings & substations and the Central Power Plant, the old power stations at 3rd Ave. N. & 2nd St., and Nicollet Ave. & 31st St., in Minneapolis, and at Hill St. near W. 3rd St. in St. Paul, were abandoned. The steam power house at Wildwood was converted into a substation, and a high-tension line built to connect with the Central Power Plant in Minneapolis. This line extended as far as a terminal house alongside the right-of-way at Wildwood, from where an underground cable continued to the old power house on the opposite side of the highway. Another high-tension line led from the terminal house to the substation at Owen St. in Stillwater.

By 1907, power demands required these substations in the two cities: In Minneapolis, on Lowry Ave. near Washington Ave. N., on Chicago Ave. at Lake St., on 27th Ave. S. at 29th St., on Girard Ave. near Lake St., and at 2nd Ave. S.E. & 14th St. S.E.; in St. Paul at Hope & E. 7th Sts., on Delos St. near Concord St., and in the west end of the car house at Snelling & University Aves. These were in addition to the ones in the two office buildings. A typical substation building is 50 ft. square, has monolithic concrete foundations, cement-brick walls, and a clear height in the machine room of 23 ft. 6 in. The equipment in each consists of two 1500-kw six-phase rotary converters, six 550-kw air-blast transformers, five remote-control oil switches, two air-blast reactance coils, motor-driven fans of 20,000 cubic feet capacity, and a switchboard with the usual machine panels, line panels and DC panels for ten outgoing feeders. Current is received from the Central Power Plant at 13,200 volts AC over duplicate lead-covered underground cables. Storage batteries act as regulators during extreme load conditions to save engines and other machinery from shocks caused by sudden fluctuations resulting from a large numbers of cars starting at the same time.

FARES AND FINANCIAL

FARES: Any ride entirely within either the city of Minneapolis or St. Paul was figured as one zone. A rate of five cents per zone was in effect from earliest horse car days until 1 August 1921, when it was raised to six cents. Tokens were first used on 1 August 1925, when the fare was raised to eight cents cash or six tokens for forty cents. Further increases were put into effect as follows:

26 January 1929	10¢ or six for 45¢
6 November 1941	10¢ or six for 50¢
8 April 1943	10¢ or six for 45¢
14 September 1947	10¢ or five for 45¢
13 July 1948	11¢ or five for 55¢
22 October 1949	12¢ or three for 35¢
18 July 1950	15¢ or four for 55¢
8 May 1952	15¢ or four for 60¢
1 January 1953	20¢ or six for \$1.00
30 April 1953	20¢ or five for 90¢

The three inter-city lines, University Ave., Selby-Lake and Como-Harriet, were all two-zone lines, the collection being pay-as-enter outbound and pay-as-leave inbound in either city. Two other routes existed between the two cities: Plymouth-E. 25th St. (Mpls.) changing to Randolph-Hazel Park (St. Paul) at the Ford Plant---and Fort Snelling (from Mpls. Loop) changing to Maria-Fort Snelling-47th Ave. at the Fort Snelling wye. The latter two lines were thru-routed until the end of two-man operation in 1936.

Fares were collected on the Lake Minnetonka and Stillwater suburban lines on a zone basis. A rate of five cents per zone was in effect until 1 August 1921, when it was increased to six cents. These fares were never raised outside the city limits. Commutation books were used by regular riders, reducing the fare still further. Fare zone limits on the suburban lines were as follows: (with sample fares)

Lake Minnetonka	Stillwater Line
City Limits 5	City Limits 5
Blake 10	Silver Lake 10
Hopkins Wye 15	Mahtomedi 15
Glen Lake 15	Birchwood 15
Clear Spgs. 20	White Bear 20
Tonkawood 20	Leis 20
Excelsior 25	Stillwater* 25
Deephaven 25	Stillwater 30
Tonka Bay 30	So. Still. 35

*City Limits

Two Minneapolis city lines of unusual length charged extra fare outside the city limits: the Robbinsdale line charged a 3¢ extra fee for a thru ride, or 5¢ straight if the ride were entirely outside of Mpls.; the suburban fare on the St. Louis Park line was always 5¢.

Free transfers were given between all car and bus lines in the Twin Cities except the Nicollet-Hannepin bus and the University express bus. Of these two bus routes, the former charged a straight 10¢ fare with no tokens, while the latter used special two-for-25¢ tokens.

Two free lines existed: the Ft. Snelling Shuttle (always free), and the Burns Avenue Shuttle (about ten years).

The Inter-campus line had special student tickets, or charged regular token or cash fare---but did not accept or issue transfers. It also featured the famous 100 forms for students who were temporarily financially embarrassed.

Many cities were accustomed to using the weekly pass. Minneapolis and St. Paul were never accorded that privilege.

Transfer forms remained practically unchanged from 1913 until 1947. On 1 January 1947 new, longer transfer forms with somewhat altered regulations were put into use; these lasted only about a year, then were replaced by the old-sized forms but the 1947 changes in privileges and lettering were retained.

In common with other cities, Minneapolis-St. Paul students received special consideration in the matter of fares. A student fare was in effect for all pupils including public, private and parochial up to and including all high school grades. Students riding to and from suburban areas paid the regular fare in the suburban area (Robbinsdale, St. Louis Park, Hopkins, Mahtomedi, South St. Paul) plus the student fare in the city. Effective July 22, 1950, the special student fare was 10¢. Transfers were issued the same as for the adult fare. The student fare was in effect with no restriction as to hours or day of week.



INTER CITY DIVISION

CAR NO.

LINE

Form 48

DATE 19__

CONDUCTOR NO. _____

RELIEVED BY CONDUCTOR NO. _____

PUNCH MARK _____

FARE BOX NO. _____

FARE BOX NO. _____

OVERHEAD REGISTER

CASH CASH CASH CASH CASH

TOKENS TOKENS TOKENS TOKENS TOKENS

RECEIVED _____

CLERK _____

FARE BOX READING AND TIME AT CITY LIMITS

CASH CASH CASH CASH CASH

TOKENS TOKENS TOKENS TOKENS TOKENS

TRIPS FROM TO

SEE OTHER SIDE

Jan Feb Mar Apr May Jun July Aug Sep Oct Nov Dec 1 2 3 4 5 6 7 8 9 10

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

64 47480 1047 HARRIET AM

1 2 3 4 5 6 7 8 9 10 11 12 E.B.

15 15 15 15 15 15 15 15 15 15 15 15

30 30 30 30 30 30 30 30 30 30 30 30

45 45 45 45 45 45 45 45 45 45 45 45

W.B.

I hereby certify that line, date, time, trips and runs as shown above are correct. RUN NO. _____

NOTE: When trips are made entirely within either city, the cash and token readings on each trip at terminal nearest Minneapolis-St. Paul city limits must be shown

WRITE REMARKS ON BACK

Transfer below is 1902; others have year imprinted.

MINNEAPOLIS ST. RAILWAY CO. SEE OTHER SIDE

24 24609

4th AVE. S. & 8th AVE. N.

MINNEAPOLIS-ST. PAUL

6 027184

1 2 3 4 5 6 7 8 9 10 11 12

15 15 15 15 15 15 15 15 15 15 15 15

30 30 30 30 30 30 30 30 30 30 30 30

45 45 45 45 45 45 45 45 45 45 45 45

MINNEAPOLIS ST. RAILWAY CO. SEE OTHER SIDE

24 24609

4th AVE. S. & 8th AVE. N.

MINNEAPOLIS-ST. PAUL

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MINNEAPOLIS ST. RAILWAY CO. SEE OTHER SIDE

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MINNEAPOLIS-ST. PAUL

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MINNEAPOLIS ST. RAILWAY CO. SEE OTHER SIDE

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4th AVE. S. & 8th AVE. N.

MINNEAPOLIS-ST. PAUL

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HANDLING OF FARES: It is a far cry from the original fare handling system used in the earliest days (which saw the conductor stuff the cash into his pocket and ring it up on the overhead register) to the Johnson fare boxes which were adopted as standard equipment on all cars in 1918, coincident to the installation of Pay-as-you-enter operation. Johnsons remained supreme until the electric fare boxes were brought in by the PCCs. Please note, however, that the suburban cars (1112-1123, 1145-1163, and 1255-1265) used fare registers throughout their service lives except for 1116, 1117, 1119, 1257, 1260-1263 which received Johnsons for Mahtomedi and White Bear local service.

Upon completing his day's work, the conductor noted the fare box reading, subtracted from it the reading he had made when going on duty, and the difference indicated the amount of money he owed the company. Upon arriving at his station (car house) he turned in this amount of money to the cashier.

Tokens were purchased by the conductor at the time of going on duty. At the conclusion of his day's work, he had the choice of turning in tokens along with his cash in whatever proportion he wished.

Transfers had to be drawn daily and their series number noted on a standard wrapper. Upon completing his day's work, the conductor turned in all transfers received, recording same on his trip sheet.

On Interurban lines, fare box readings were taken each time a car crossed the city limits, and transfers were segregated. This was necessary because the tax rates of the two cities were different.

Following the money on up from the station cashier: armored trucks made the rounds of the various stations daily, collected the cash and delivered it to the main office of the company in St. Paul or Minneapolis, as the case might be.

Form 130 26M 3-81 TCI

DATE 19 CAR NO.

[illegible]

I hereby certify that line, date, time, trips and runs as shown above are correct.

RUN NO.

I hereby certify that all information shown above is correct.

Motorman No.

Conductor No.

NOTE: Fare box reading must be totaled whenever car crosses city limits and entered on line parallel to mileage.

WRITE REMARKS ON BACK

The official U.S. Government Bureau of Census figures for the Twin Cities are:

<u>Year</u>	<u>Minneapolis</u>	<u>St. Paul</u>
1890	164,738	133,156
1900	202,718	163,065
1910	301,408	214,744
1920	380,582	234,698
1930	464,356	271,606
1940	492,370	287,736
1950	521,718	311,349
The 1950 suburban population		
Anoka:	7396	No. St. Paul
Col. Hts.	8175	Robbinsdale
Deephaven	1823	St. L. Park
Excelsior	1763	St. St. Paul
Hastings	6560	Stillwater
Hopkins	7595	White Bear
Maplewood	1395	

The 1950 suburban population was:

Anoka	7396	No. St. Paul	4248
Col. Hts.	8175	Robbinsdale	11,289
Deephaven	1823	St. L. Park	22,644
Excelsior	1763	St. St. Paul	15,909
Hastings	6560	Stillwtr.	7674
Hopkins	7595	White Bear	3646
Mahtomedi	1375		

Form 681 1M Bkx. 1-48 TCL

Line _____ 19

Received of Operator _____ No. _____

on account of over-payment of fare. _____ cents. _____ Tokens

(1999)

(1) *Admission*

Document to be searched and

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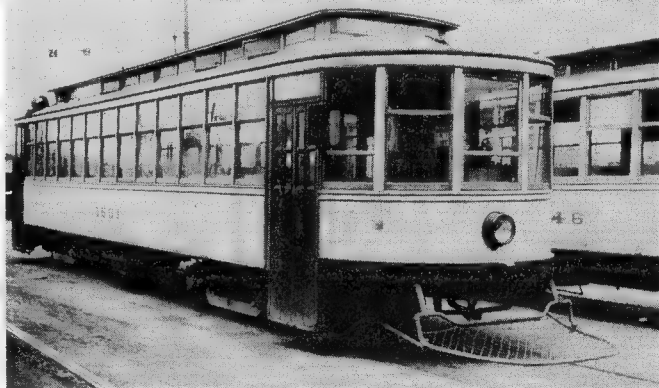
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ Tokens.

Cents.

The Ossanna management plans to spend \$13,000,000 on new equipment and building construction in the 1953-55 period. This includes 200 buses costing \$4,500,000 in 1953, 230 more costing \$4,900,000 in 1954, 98 replacement buses at \$2,250,000, two garages in Minneapolis in 1953 costing \$641,000---these to be doubled in 1954 at an additional cost of \$435,900 (Niccollet & North Side), a garage at \$467,720 and a trainmen's building for \$48,900 in St. Paul (Snelling), and a short-wave radio system for dispatching trouble-shooter vehicles at cost of \$52,407.

The following list gives income, passengers, miles of track in use and car miles operated by years:

<u>Year</u>	<u>Total Income</u>	<u>Total Passengers</u>	<u>Track</u>	<u>Miles</u>
1902	\$ 3,591,548			
1907	6,020,542			
1912	8,176,323			
1917	10,207,713	199,621,160		
1922	13,659,955	226,543,924	471.83	
1927	13,287,480	177,319,024	511.81	
1932	9,032,748	113,032,559	476.74	
1937	9,078,505	112,769,450	472.62	
1940	8,368,887	104,313,619	446.30	20,773,086
1941	8,601,466	105,941,868	445.26	20,449,701
1942	11,439,792	128,924,943	444.23	22,073,932
1943	14,582,121	173,280,097	444.26	25,011,641
1944	15,014,031	185,222,547	444.38	26,040,456
1945	15,752,736	193,739,036	444.04	26,227,170
1946	16,320,684	201,527,022	443.87	26,752,666
1947	16,680,823	198,921,195	440.84	27,092,585
1948	18,971,470	188,408,206	424.53	26,255,677
1949	18,558,568	165,550,924	424.31	24,285,781
1950	18,267,115	140,441,387	409.99	21,921,612
1951	18,087,611	125,259,681	392.11	19,765,192
1952	16,991,580	112,795,149	270.49	14,959,559



MINNEAPOLIS STREET CAR AND BUS SYSTEM

CONSULT THIS GUIDE FOR ROUTING
AND LOCATION OF LINES



- STREET CAR LINES
- - - BUS LINES
- CITY LIMITS

KEY TO NUMBERS

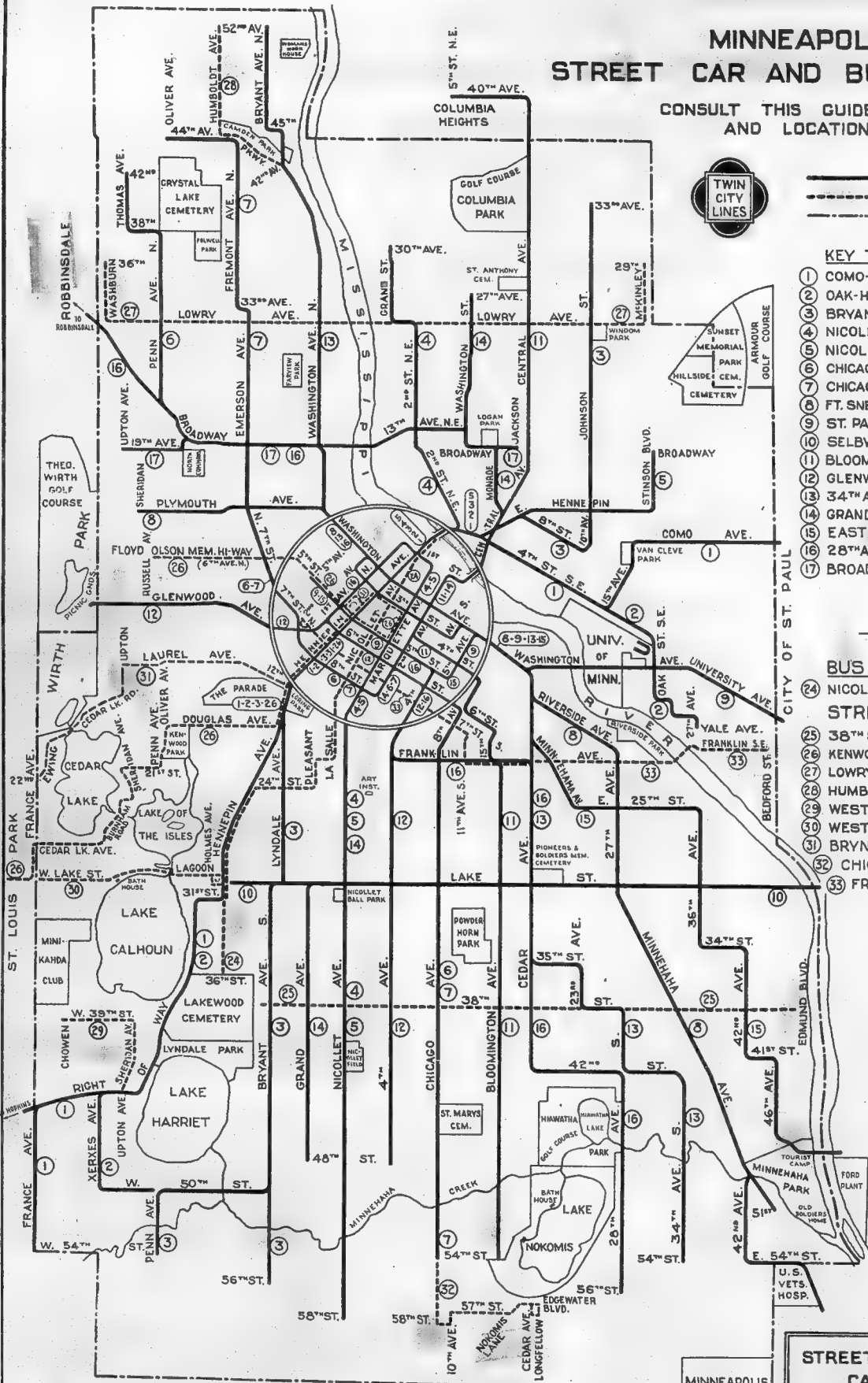
- 1 COMO-HARRIET-HOPKINS
- 2 OAK-HARRIET
- 3 BRYANT-JOHNSON
- 4 NICOLLET-2ND ST. N.E.
- 5 NICOLLET-N.W. TERMINAL
- 6 CHICAGO-PENN
- 7 CHICAGO-FREMONT
- 8 FT. SNELLING-MINNEHAHA-PLYMOUTH
- 9 ST. PAUL-MINNEAPOLIS
- 10 SELBY-LAKE
- 11 BLOOMINGTON-COL. HTS.
- 12 GLENWOOD-4TH AVE.
- 13 34TH AVE. S.-N. BRYANT
- 14 GRAND-MONROE
- 15 EAST 25TH ST.
- 16 28TH AVE. S.-ROBBINSDALE
- 17 BROADWAY CROSSTOWN

BUS LINES

- 24 NICOLLET-HENNEPIN

STREET CAR BUSES

- 25 38TH STREET
- 26 KENWOOD-ST. LOUIS PARK-RUSSELL NO.
- 27 LOWRY AVE.
- 28 HUMBOLDT AVE.
- 29 WEST 39TH ST.
- 30 WEST LAKE ST.
- 31 BRYN MAWR
- 32 CHICAGO AVE.
- 33 FRANKLIN AVE.



SCALE
0 1/2 1 MILE

STREET CAR INFORMATION
CALL MAIN 1214
INFORMATION DESK

MINNEAPOLIS
MUNICIPAL
AIRPORT

MINNEAPOLIS ROUTES DESCRIPTION

BLOOMINGTON AVENUE

28 October 1891: From Washington and 1st Ave. S., via 1st Ave. S., 4th St., 8th Ave. S., 6th St., 10th Ave. S., 7th St., 15th Ave. S., Franklin Ave., Bloomington Ave., to 32nd St.

15 July 1894: Thru-routed with PLYMOUTH AV.

7 August 1905: extended to 34th St.

10 December 1911: Extended to 38th St.

16 January 1919: Thru-routed with CENTRAL AVE. - COLUMBIA HEIGHTS instead of Plymouth.

18 October 1920: Rerouted from 4th St. and 2nd Ave. S. on new track along 2nd Ave. S. to 1st St., to 3rd Ave. S., across new bridge over Mississippi River to Central Ave., to a junction with old route at East Hennepin.

15 May 1922: Trackless trolley started operation on Bloomington Ave. between 38th and 48th Sts.

22 May 1923: Rails extended to 48th St.; trackless trolley discontinued.

13 September 1928: Extended to 52nd St.

1 December 1931: One-man owl and evening service.

1 May 1932: One-man Sunday service.

16 May 1932: One-man except rush hours.

3 July 1933: All service one-man.

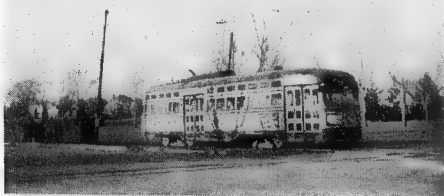
12 October 1933: Extended to 54th St.; 52nd St. wye taken up.

July 1949: Partial PCC operation begun.

23 August 1952: From Central, via Hennepin, 1st St., Marquette, 6th St., 4th Ave. So., Franklin, Bloomington, to 54th.

24 September 1952: (Northbound only) Via Bloomington, Franklin, 4th Ave. S., 5th St., 2nd Ave. S., 1st St., 3rd Ave. S., Central.

21 February 1953: Abandoned.



438 at 54th & Bloomington, 4-20-52. (EHN)

BROADWAY

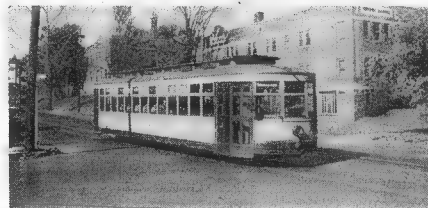
27 June 1914: From Broadway and Jackson St. N.E., via Broadway, Washington St. N.E., 13th Ave. N.E., Broadway, to Washington Ave.

3 January 1923: New line built from Morgan and Broadway, via Morgan, 19th Ave. N., to Upton Ave. N. Route extended from Broadway and Washington Ave. N. to Upton & 19th Aves.

10 August 1930: All service one-man.

16 April 1950: Entire route discontinued. Track from Washington Ave. N. to Morgan, and from Broadway & Monroe to 13th Ave. N.E. & Washington St. N.E. continued in use by other lines until 1954.

INTERURBANS



2001 on Broadway Crosstown Line, 1945 (WM)

BRYANT AVENUE SOUTH

28 November 1890: From 12th and Hennepin, via Hennepin, Lyndale, 28th St., to Hennepin.

16 December 1891: From 5th and Hennepin, via Hennepin, Lyndale, 31st St., Bryant, to 38th St.; single track beyond 31st & Bryant. Track on 28th St. abandoned. Thru-routed with MONROE ST.

26 August 1893: Single track on Bryant extended from 38th St. to 46th St.

1903: Second track laid from 31st to 40th.

1908: . . . Bryant laid from 40th to 46th.

1911: . . . Bryant, to 50th St.

1908: Second track laid from 40th to 46th.

22 November 1911: . . . Bryant, to 50th.

18 October 1920: Thru-routed with JOHNSON ST. Downtown route changed to Hennepin, 11th St., 1st Ave N., 1st St., Hennepin, E. Hennepin.

16 October 1927: . . . Bryant, 50th, Penn, to 54th.

30 October 1931: Part of service on Bryant to 56th.

1 June 1932: One-man owl service.

26 June 1932: One-man Sunday service.

19 May 1933: One-man except rush hours.

2 July 1934: All service one-man.

1 September 1934: Downtown route thru via Hennepin instead of 1st Ave. N.

December, 1953: Abandoned.



Northbound Bryant-Johnson PCC leaving private bridge at Bryant Ave. & Minnehaha Parkway. (JS)

BRYN MAWR

10 December 1891: From 12th St. & Hennepin Ave., via 12th, Hawthorne, to Lyndale.

4 August 1892: . . . Hawthorne, Aldrich, Laurel, Irving, to Oliver; single track beyond Irving.

1894: Thru-routed with COMO AVE. line.

1895: Thru-routed with OAK ST. instead of Como Ave.

1901: One track abandoned between Colfax and Irving.

4 May 1906: Thru-routed with 8TH ST. S.E. Part of service via Hennepin, 6th St., 1st Ave. N., 5th St., Hennepin, then same as inbound.

15 January 1907: Loop route for part of service changed to Hennepin, 3rd St., 1st Ave. N., wye and return same.

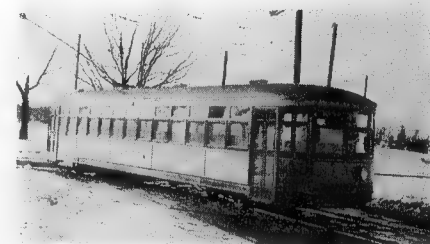
2 May 1910: Loop route of 1906 resumed.

31 July 1912: 8th St. S.E. thru-routing discontinued. All service via loop route of 1910.

15 November 1928: Extended on Laurel from Oliver to Upton, all single track.

10 August 1930: All service one-man.

29 June 1939: Abandoned.



2011 at end of Bryn Mawr line, Laurel & Upton, in 1938. (SM)

CEDAR AVENUE - 28TH AVENUE SOUTH

27 September 1913: From Washington and Hennepin, via Washington, Cedar, 35th St., 23rd Ave. S., 38th St., 28th Ave. S., to 50th St.; single track south of 42nd St. Thru-routed with Washington Ave. N. as LAKE KOKOMIS-CAMDEN line.

13 June 1914: Single track built on Cedar from 35th St. to 42nd St. Shuttle service.

25 October 1914: Single track built on 50th St. between 28th Ave. S. & 34th Ave. S.

1 November 1916: CEDAR AVE. shuttle service discontinued; thru service operated from Cedar & 42nd, via Cedar, Washington, 4th Ave. S., 3rd St., 2nd Ave. N., Washington, Cedar, to 42nd St.

6 July 1918: Downtown service of 1916 discontinued; Shuttle service operated on Cedar between Lake St. and 42nd St.

1920 (only): Part of 28th Ave. S. service thru-routed with PENN AVE. N.

16 June 1921: Single track extended on Cedar from 42nd to 50th St.; second track laid from 35th to 42nd St.

20 October 1921: Part of 28th Ave. S. service thru-routed with N. EMERSON as CEDAR-EMERSON line; from 50th St. & 34th Ave. S., via 50th St., 28th Ave. S., 38th St., 23rd Ave. S., 35th St., Cedar, Franklin, 4th Ave. S., 5th St., 1st Ave. N., Washington, Broadway, Emerson Ave. N. 33rd Ave. N., Fremont Ave. N., to 36th Ave. N.

1925: Shuttle line extended from Cedar and 50th, via Cedar, 52nd, to Bloomington.

28 November 1926: Shuttle service replaced by thru service with downtown route of 1916. 28th Ave. S. line abandoned on 50th St. between 34th Ave. S. and 28th Ave. S. New track laid on 42nd St. from Cedar Ave. to 28th Ave. S. Service north of 42nd St. replaced by 34TH AVE. S. - N. BRYANT line. Route then from 5th and Hennepin, via 5th, 4th Ave. S., Franklin, Cedar, 42nd St.,

CEDAR AVE.-28TH AVE. SOUTH (Cont.)

28th Ave. S., to 50th St. All service designated 28TH AVE. S. - N. EMERSON line. Route north of Hennepin as of 20 Oct. 1921.

1 December 1926: CEDAR AVE. service from 5th St. and 5th Ave. N., via 5th St., 4th Ave. S., Franklin, Cedar, 52nd St., to Bloomington Ave.

13 Sept. 1928: CEDAR AVE. line abandoned between 50th & Cedar and 52nd & Bloomington.

2 January 1929: All CEDAR AVE. service by shuttle car, 42nd St. to 50th St.

30 November 1929: 28TH AVE. S. line extended from 50th to 56th St.

18 May 1930: One-man operation for CEDAR Ave. shuttle.

16 April 1932: One-man service on 28TH AVE. S., except rush hours.

1 June 1933: All 28TH AVE. S. service by one-man cars.

17 September 1933: CEDAR AVE. shuttle line abandoned.

29 November 1940: Most of 28th Ave. S. service thru-routed with ROBBINSDALE, some rush hour trips continuing to operate as 28TH AVE. S. - N. EMERSON.

10 July 1948: Robbinsdale line abandoned. 28TH AVE. S. line terminated at 5th Ave. N. and 5th St. downtown.

19 August 1950: Abandoned on 28th Ave. S., on Cedar from Lake St. to Franklin, and on Franklin from Cedar to Bloomington. Remainder combined with part of 34TH AVE. S. line to form new route, using "34TH AVE. S." signs (see 34TH AVE. S. for details).



1220 at 50th St. & 28th Ave. So., 1950. (EH)

CEDAR AVENUE - 34TH AVENUE SOUTH

17 December 1891: From High St. loop via Hennepin, Washington, Cedar, to 34th St.

1894: From 1st Ave. N. and Washington, via 1st Ave. N., 3rd St., 4th Ave. S., Washington, Cedar, to 34th St. Thru-routed with Emerson Ave. N. as CEDAR & EMERSON line.

18 May 1907: Rerouted thru on Washington between 1st Ave. N. and 4th Ave. S.

25 June 1910: Thru-routed with Washington Ave. N. as CEDAR & CAMDEN line.

12 November 1912: . . . Cedar, 35th St., 23rd Ave. S., 38th St., to 28th Ave. S.

27 September 1913: . . . 38th St., 28th Ave. S., to 50th St. Designated LAKE NOKOMIS-CAMDEN line.

20 October 1921: (See CEDAR AVE. - 28TH AVE. S. for route of CEDAR-EMERSON service.)

28 November 1926: . . . 28th Ave. S., 42nd St., 34th Ave. S., to 54th St. Designated 34TH AVE. S. - N. BRYANT line.

4 April 1932: One-man middays and evenings.

16 June 1932: One-man Sunday service.

CEDAR AVE.-34TH AVE. SO. (Cont.)

19 June 1933: All service one-man.

2 August 1947: N. Bryant extension abandoned; line redesignated 34TH AVE. S. - N. WASHINGTON

19 August 1950: Abandoned on 35th St., 23rd Ave. S., 38th St., and 28th Ave. S. New route from 5th St. & 5th Ave. N., via 5th St., 4th Ave. S., Franklin, Bloomington, Lake, Cedar, 42nd St., 34th Ave. S., to 54th St.,

10 April 1953: Abandoned.

(See CEDAR AVE. - 28TH AVE. S. for details of 28th Ave. S. service after 1913.)



1583 at 24th & Washington on 8-18-50; in service on 34th Ave. So.-N. Washington.

CENTRAL AVENUE - COLUMBIA HEIGHTS

28 June 1891: From Hennepin Ave. & 1st St., via E. Hennepin, Central, to 29th Ave. N.E. Thru-routed with LAKE HARRIET.

2 November 1892: Thru-routed with 8TH AVE. S. instead of Lake Harriet.

29 August 1893: Extended on Central from 29th Ave. N.E. to 40th Ave. N.E., single track.

1904: Second track laid from 29th Ave. N.E. to 40th Ave. N.E.

14 November 1906: Extended on 40th Ave. N.E. from Central Ave. to 5th St. N.E. (Columbia Heights), single track.

25 June 1910: Thru-routed with Nicollet Av. as WASHBURN PARK - COLUMBIA HEIGHTS line.

16 January 1919: Thru-routed with Bloomington Ave. as BLOOMINGTON - COLUMBIA HEIGHTS.

18 October 1920: From 2nd Ave S. and 4th St, via 2nd Ave. S., 1st St., 3rd Ave. S., Central, 40th Ave. N.E., to 5th St. N.E.

1 December 1931: One-man evening and owl service.

16 May 1932: One-man except rush hours.

3 July 1933: All service by one-man cars.

30 June 1934: Wye at 40th & Central moved to 40th & Van Buren.

6 July 1949: PCCs operated on some runs originating at East Side Station.

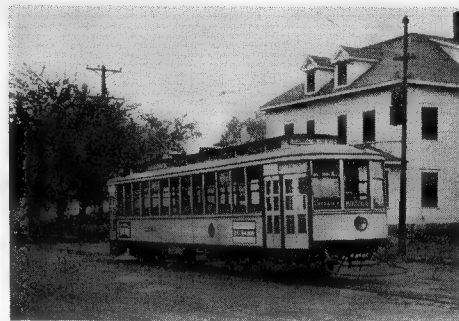
16 July 1951: Abandoned on 40th Ave. N.E. from Van Buren Ave. to 5th St. N.E.

28 July 1951: Abandoned from 37th & Central to 40th & Van Buren.

23 August 1952: From Bloomington & 54th St, via Bloomington, Franklin, 4th Ave. S., 6th St., Marquette, 1st St., Hennepin, Central, to 37th Ave. N.E.

25 September 1952: (Northbound only) . . . 4th Ave. S., 5th St., 2nd Ave. S., 1st St., 3rd Ave. S., Central, to 37th Ave. N.E.

16 May 1953: Abandoned.



Columbia Hts. car 1680 at 5th St. NE wye in Columbia Hts., 9-21-50. (JS)

CHICAGO AVENUE

7 December 1890: From 1st Ave. S. & High St., via High St., Hennepin, 6th St., 8th Ave. S., Chicago, to 35th St.

1892: Thru-routed with CENTRAL AVE.

3 October 1904: . . . Chicago, to 46th St., single track.

2 May 1906: Northbound via 6th St., 2nd Ave. S., Washington, Hennepin; southbound via Hennepin, 5th St., 2nd Ave. S., 6th St.,

8 May 1906: Downtown loop for tripper service, 6th St., 1st Ave. N., 3rd St., Hennepin, 6th St.

25 June 1910: Thru-routed with N. EMERSON and N. PENN lines via 6th St., 1st Ave. N.

1911: Second track laid on Chicago from 35th to 46th Sts.

27 June 1912: N. Emerson service extended to 42nd & Fremont Aves. N. Designated as 8TH AVE. S. & FREMONT line.

1914: 8th Ave. S. renamed Chicago Ave. south of 9th St., line redesignated CHICAGO-FREMONT and CHICAGO-PENN.

1 December 1920: From 7th St. and 2nd Ave. N., via 2nd Ave. N., 8th St., 2nd Ave. S., 6th St., 8th Ave. S., Chicago, to 46th St.

11 September 1922: . . . Chicago, to 48th.

22 January 1928: . . . Chicago, to 54th St.

1 June 1932: One-man owl service.

26 June 1932: One-man Sunday service.

14 May 1934: One-man evening service.

2 January 1948: All service one-man.

13 September 1952: (Northbound only) . . . 6th St., 1st Ave. N., 8th St., . . .

10 July 1953: Abandoned.



Two-man car 1376 at Chicago & 54th St. E.; in service on Chicago-Penn line, 1946. (WM)

INTERURBANS



COMO AVENUE

14 June 1891: From Hennepin Ave. & 1st St. via E. Hennepin, 4th St. S.E., 15th Ave. S.E., to Como Ave.

1894: Thru-routed with BRYN MAWR.

1 July 1898: . . . 15th Ave. S.E., Como Ave., to city limits (thru service to St. Paul).

1902: Thru-routed with KENWOOD PARK. Part of service thru-routed with HENNEPIN Ave. to LAKE HARRIET.

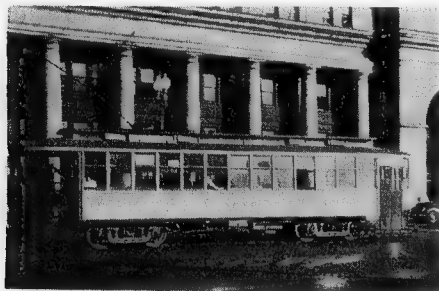
1905: Kenwood Park thru-routing discontinued.

16 June 1906: Part of service operated thru from St. Paul to Hopkins.

4 April 1952: All service one-man.

1 October 1952: Partial PGC service begun.

10 July 1953: Como Ave. in St. Paul abandoned, except that Minneapolis cars ran to Eastis St. wye (Inter-Campus line junction), three blocks inside St. Paul. Track from Eastis St. to the State Fair Grounds was not permanently removed from service until after State Fair Week, 5-13 September 1953, when special thru service was operated.



Gate car 1276 on Hennepin Ave. at CB&Q Station at rush hour. 1948. (JS)

EAST 25TH STREET

28 November 1912: From Minnehaha and Cedar Aves., via Minnehaha, E. 25th St., to 36th Ave. S., single track. Service by a double-end shuttle car.

25 September 1914: Route of 1912: double-tracked. New line built from 36th Ave. S. and Lake St., via 36th Ave. S., 34th St., 42nd Ave. S., to 41st St., shuttle service, designated 42ND AVE. S. line.

31 October 1914: In via Washington, 4th Av Ave. S., 3rd St., 1st Ave. N., Washington, 2nd Ave. N., out via 3rd St., 4th Ave. S., Washington, Cedar, Minnehaha, 25th St., to 36th Ave. S.; E. 25th St. shuttle service discontinued.

1 September 1918: Part of E. 25th St. service thru-routed with KENWOOD.

1 December 1920: Kenwood thru-routing discontinued. E. 25th St. service divided among N. Emerson, W. Broadway, and Camden lines for thru-routing.

25 September 1921: 42nd Ave. S. line extended on 41st St., 46th Ave. S., to 46th St., single track.

20 October 1921: Kenwood service resumed; thru-routings of 1920 discontinued.

19 November 1923: E. 25th St. line extended on 36th Ave. S. to Lake St. 42nd Ave. S. line still operated separately.

1924: Second track laid from 36th Ave. S. and Lake St. to 42nd Ave. S. and 41st St. KENWOOD-E. 25TH ST. cars run thru to 46th Ave. S. and 46th St.

2 December 1927: Second track laid on 41st St. and 46th Ave. S. to 46th St.; new line built from 46th St., across new highway

EAST 25TH STREET (Continued)

bridge over Mississippi River, to the Ford Plant.

1 December 1931: One-man evening and owl service.

15 February 1932: One-man except rush hours.

19 June 1933: All service one-man.

27 August 1938: Kenwood line abandoned. E. 25th St. cars via Washington, 5th Ave. S, 5th St., to 5th Ave. N.

15 June 1939: Part of service thru-routed with SIXTH AVE. N., via 5th St., 6th Ave. N, to Russell Ave. N.

16 February 1946: All service thru-routed with PLYMOUTH AVE., via 5th St., 1st Ave. N., Washington, Plymouth, to Sheridan.

December, 1953 : Abandoned.



At left, 1747 on Plymouth-E. 25th line; at right, 1490 on Randolph-Hazel Park line; at Ford Plant loop, 1952. (EEN)

EMERSON AND FREMONT AVENUES NORTH

17 December 1891: From Washington & 1st Ave. S., via Washington, Broadway, Emerson Ave. N., to 32nd Ave. N., single track north of Broadway & Emerson.

1893: Second track on Emerson from Broadway to 26th Ave. N.

1894: Thru-routed with CEDAR AVE.

1902: Double-tracked from 26th to 29th Aves. N.

19 May 1907: Extended from Emerson & 32nd Aves. N., via Emerson, 33rd Ave. N., Fremont to 36th Ave. N., single track. Double track extended to 32nd Ave. N.

25 June 1910: Thru-routed with Chicago Ave. as CHICAGO-FREMONT line.

27 June 1912: From 8th & Marquette, via 8th St., 1st Ave. N., Washington, Broadway, Emerson, 33rd Ave. N., Fremont, to 42nd Ave. N.

28 June 1914: . . . Fremont, to 44th Ave. N.

1 December 1920: New line built from Broadway, south on Emerson, 7th St., to 3rd Ave. N. Route then from 6th St. & 2nd Ave. S., via 2nd Ave. S., 8th St., 2nd Ave. N., 7th St., Emerson, . . .

13 December 1920: Part of service thru-routed with E. 25TH ST., from 36th and Fremont Aves. N., via Fremont, 33rd Ave. N., Emerson, Broadway, Washington, Cedar, Minnehaha, E. 25th St., to 36th Ave. S.

20 October 1921: E. 25th St. service replaced by resumption of CEDAR-EMERSON line.

15 January 1926: CHICAGO-FREMONT extended on 44th Ave. N. from Fremont to Oliver.

28 November 1926: Cedar-Emerson service redesignated 28TH AVE. S. - N. EMERSON.

16 April 1932: 28TH AVE. S.-N. EMERSON service one-man except rush hours.

EMERSON & FREMONT AVES. NORTH (Continued)

1 June 1932: CHICAGO-FREMONT owls one-man.

26 June 1932: One-man Sunday service.

1 June 1933: 28TH AVE. S. - N. EMERSON service all one-man.

14 May 1934: One-man evening service.

29 November 1940: 28TH AVE. S.-N. EMERSON reduced to rush hours only.

2 January 1950: CHICAGO-FREMONT service one-man except rush hours.

19 August 1950: All 28TH AVE. S. - N. EMERSON service discontinued.

1 August 1951: All service one-man.

17 May 1952: Abandoned from 36th & Fremont to 44th & Oliver.

10 July 1953: Abandoned, except for once-a-week franchise car.



1583 southbound at 37th & Fremont, July 25, 1951. (EHN)

FORT SNELLING & FORT SNELLING SHUTTLE

(See MINNEHAHA FALLS - FORT SNELLING)

FOURTH AVENUE SOUTH

24 December 1889: From 4th and Washington Aves. S., via 4th Ave., to 34th St.

1890: . . . 4th Ave. S., to 38th St.

1891: From 3rd St. & Marquette, via 3rd St., 4th Ave. S., to 38th St.

1892: From Washington & 6th Aves. N., via Washington, 2nd Ave. N., 3rd St., 4th Ave. S., to 38th St. Part of service from 1st Ave. N. & Washington, via 1st Ave. N., to 3rd St., 4th Ave. S., to 38th St.

1897: From 5th St. and 5th Ave. N., via 5th St., 4th Ave. S., to 38th St.,

2 May 1910: Part of service from 5th St. & 1st Ave. N.

1 July 1919: Thru-routed with WESTERN AVE., from Western & Kerkex, via Western, 1st Ave. N., 5th St., 4th Ave. S. to 38th St.

1 December 1920: . . . 1st Ave. N., 6th St., 4th Ave. S., to 38th St.

1921: Trailer operation begun.

24 September 1923: . . . 4th Ave. S., to 48th St.

3 November 1931: One-man evening and owl service.

1 May 1932: One-man Sunday service.

16 May 1932: One-man except rush hours.

23 April 1934: All service one-man.

1935: Trailer operation discontinued.

6 August 1947: PGC operation begun.

INTERURBANS

FRANKLIN AVENUE - 11TH STREET

31 October 1914: From 11th St. & Hennepin, via 11th St., 4th Ave. S., Franklin, to 27th Ave. S. Thru-routed with FORT SNELLING.

17 December 1916: Part of service via Franklin to Mississippi River at 32nd Ave. S.

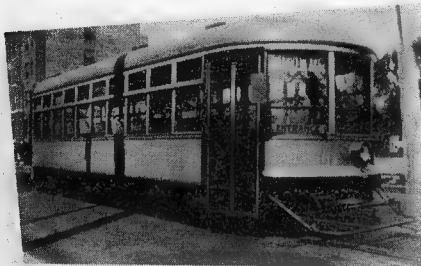
19 October 1921: Fort Snelling thru-routing discontinued.

13 December 1924: Extended across Mississippi River, via 27th Ave. S.E., to a connection with Oak St. line at Yale Ave. wye.

10 August 1930: All service one-man.

18 May 1935: Thru-routed with ROBBINSDALE.

29 November 1940: Abandoned.



#1, in service on Franklin Ave. line, at 11th & Hawthorne, 6-13-33. (MAN)

GLENWOOD AVENUE

25 January 1891: From 7th & Hennepin, via 7th St., Western Ave., to Penn Ave., single track.

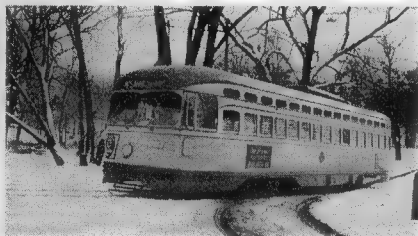
4 August 1891: Thru-routed with 2ND ST. N.E.

24 June 1916: . . . Western Ave., to Glenwood Park just west of Xerxes Ave.

1 July 1919: Thru-routed with 4TH AVE. S.

1927: Western Ave. renamed GLENWOOD AVE.

(See 4TH AVE. S. for dates of one-man and PCC operation.)



PCC 383 at Wirth Park end of Glenwood-4th Ave. So. line, 1-5-52. (RDG)

GRAND AVENUE SOUTH

18 November 1907: From Washington & 1st Ave. N., via Washington, Marquette, Grant, Nicollet, Lake, Grand, to 40th St.; in via Marquette, 3rd St., 1st Ave. N., to Washington.

14 August 1909: From 3rd St. and 1st Ave. N., via 3rd St., Hennepin, Lyndale, Lake, Grand, to 40th St.

2 May 1910: (Southbound only) From 1st Ave. N. and 3rd St., via 1st Ave. N., 5th St., Hennepin, . . .

25 June 1910: From Marquette Ave. and High St., via Marquette, Grant, Nicollet, Lake, Grand, to 40th.

1 September 1918: Thru-routed with JOHNSON ST. line.

18 November 1920: Thru-routed with MONROE ST., via Marquette, 8th St., 2nd Ave. S., 1st St., 3rd Ave. S., Central, etc.

GRAND AVENUE SOUTH (Continued)

16 March 1932: One-man except rush hours.

9 July 1934: All service one-man.

21 September 1942: . . . Marquette, 1st St., E. Hennepin, Central, . . .

July 1949: Partial PCC begun.

18 October 1952: Abandoned.



424 at 48th & Grand, 8-24-52. The line wye'd in a lot in middle of block. (EHN)

JOHNSON STREET

20 November 1899: From 8th St. S.E. and Central Ave., via 8th St. S.E., to 14th Ave. S.E., single track.

1902: Thru-routed with KENWOOD line, via Hennepin Ave.

1904: Second track built on route of 1899.

1906: Thru-routed with BRYN MAWR.

8 November 1911: Separate line built from 18th Ave. N.E. & Central, via 18th, Johnson, to 28th Ave. N.E., single track. Shuttle service only.

31 July 1912: Abandoned on 8th St. S.E., from 10th Ave. S.E. to 14th Ave. S.E., and on 18th Ave. N.E. New track laid on 10th Ave. S.E. Route then from Hennepin Ave. & 1st St., via E. Hennepin, 8th St. S.E., 10th Ave. S.E., Johnson, to 29th Ave. N.E. Thru-routed as KENWOOD-JOHNSON line.

1 September 1918: Thru-routed with GRAND AVE. S. instead of Kenwood.

18 October 1920: Thru-routed with BRYANT AVE. S. instead of Grand Ave.

1 November 1923: Extended on Johnson St. from 29th to 33rd Aves. N.E., single track.

1924: Second track laid on Johnson between 29th and 33rd Aves. N.E.

1 June 1932: One-man owl service.

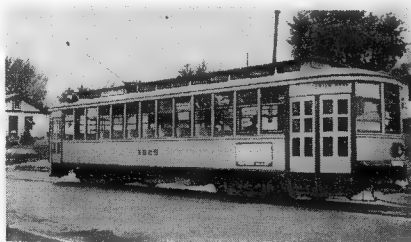
26 June 1932: One-man Sunday service.

19 May 1933: One-man except rush hours.

2 July 1934: All service one-man.

6 August 1947: Base service PCC-operated.

December, 1953: Abandoned.



1625 at 33rd & Johnson. (BN)

KENWOOD

9 December 1890: From High St. and 1st Ave. S., via High, Hennepin, Douglas, Penn., to 21st St., single track west of Hennepin.

1896: Second track built on Douglas from Hennepin to Knox.

1900: Second track extended from Knox to Penn.

1902: Thru-routed with OAK & COMO. Part of service thru-routed with 8TH ST. S.E.

1903: Second track built on Penn from Douglas to 21st St.

31 July 1912: Thru-routed with JOHNSON ST.

1 September 1918: Thru-routed with E. 25th St. instead of Johnson St.

1 December 1920: Short-line loop via Hennepin, 11th, Hawthorne, 1st Ave. N., 5th St., Hennepin. Thru-routing discontinued.

15 December 1920: Short-line cars to and from 1st St. & 1st Ave. N., via 1st St., Hennepin, . . .

20 October 1921: E. 25TH ST. thru-routing resumed, via Hennepin, 3rd St., 4th Ave. S., Washington.

1 December 1931: One-man evening and owl service.

15 February 1932: One-man except rush hours.

19 June 1933: All service one-man.

27 August 1938: Abandoned.



Gate car 1274 at 13th & Hennepin. (JS)

LAKE HARRIET

24 May 1891: From 1st Ave. S. and High St., via 1st Ave. S., Grant, Nicollet, 31st St., PRW, to loop east of Upton Ave.

13 August 1891: From Hennepin Ave. & 1st St., via Hennepin, 31st St., PRW, to Lake Harriet loop.

1892: Thru-routed with CENTRAL AVE.

2 November 1892: Thru-routing discontinued. Downtown loop via Hennepin, Washington, 1st Ave. S., High St., 1st St., Hennepin.

1902: Thru-routed with COMO AVE. to St. Paul. Part of service thru-routed with OAK ST.

15 September 1905: Abandoned on 31st St. between Nicollet and Hennepin. PRW extended to city limits and beyond, as Lake Minnetonka line.

16 June 1906: COMO-HOPKINS service begun. Hopkins terminus on 9th Ave. between 1st St. and Excelsior Ave.

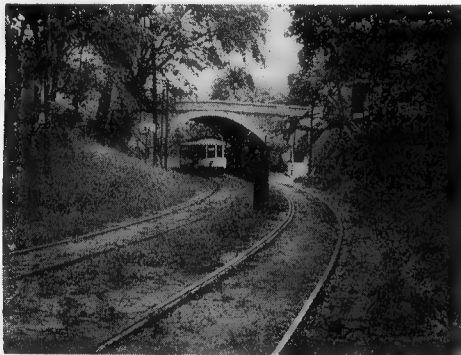
5 June 1909: Como-Harriet service extended to 44th St. & France Ave., Oak-Harriet cars continuing to terminate at Lake Harriet.

1 October 1913: Oak-Harriet service extended to and along Xerxes Ave. (See OAK-HARRIET for this service after 1913.)

9 October 1925: From Hennepin Ave. and 1st St., via Hennepin, 31st St., PRW, France Ave. S., to 50th St.

LAKE HARRIET (Continued)

- 20 July 1929: Double-tracked on France Ave.
- 16 September 1929: . . . France Ave. to 54th St., single track south of 50th St.
- 20 September 1931: Como-Hopkins cars to Deephaven Sundays only.
- 11 August 1932: Deephaven line abandoned.
- 10 November 1934: One-man owl service. 50th St. wye moved to 51st St.
- 4 August 1951: Hopkins line cut back to Brookside.
- 4 April 1952: All service one-man.
- 11 August 1952: Abandoned on France Ave.
- 2 October 1952: Began partial PCC service.



General view of 43rd St.-Linden Hills overpass. Note rapid transit style station layout. 10-48. (JS)

LAKE STREET

- 27 May 1905: From Lake St. & Hennepin Ave., via Lake, to 31st Ave. S.
- 21 May 1906: Extended east on Lake St., over new bridge across Mississippi River, to connect with SELBY AVE. line on Marshall Ave. in St. Paul for thru service.
- 29 June 1906: From 1st St. & Hennepin, via Hennepin, 6th St., 1st Ave. N., 5th St., Hennepin, Lake St., to St. Paul.
- 8 November 1907: From Hennepin & Lake, via Lake St. to St. Paul.
- 10 November 1934: One-man owl service.
- 19 April 1946: Turn on Girard Substation wye, and pull out from Girard Ave. instead of backing to Hennepin.
- 3 June 1950: One-man evening and Sunday service.
- 4 April 1952: All service one-man.
- 10 July 1953: Abandoned, except for once-a-week franchise run.



Selby-Lake car westbound at Lake & 36th Ave. So., Sept., 1950. (JS)

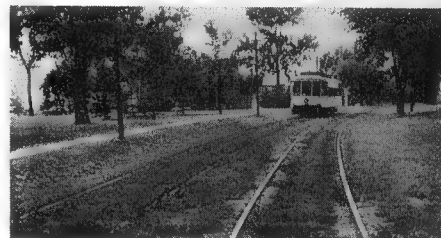
MINNEHAHA FALLS - FORT SNELLING

- 21 September 1890: From Washington and 1st Aves. So., via Washington, Cedar, Riverside, 27th Ave. So., to 26th St.
- 14 June 1891: . . . 27th Ave. So., Minnehaha Ave., to Minnehaha Falls at 51st St.
- 1902 to 1906: Sunday and Holiday service from Lake Harriet loop via Como-Harriet and Selby-Lake routes to 27th Ave. So., thence Minnehaha Ave. to Minnehaha Falls.
- 21 August 1905: . . . Minnehaha Ave., PRW, to Fort Snelling at Mississippi River.
- 15 June 1906: Downtown loop via Washington, 4th Ave. So., 3rd St., 1st Ave. No., 5th St., 2nd Ave. So., Washington.
- 21 June 1909: Seventh St. Bridge opened across Mississippi River at Fort Snelling, and thru service started to 7th & Duluth in St. Paul; designated SNELLING-MINNEHAHA line. Fort Snelling shuttle line (single track) opened from Bridge Jct. southwest into the military reservation. Minneapolis loop route via Washington, 2nd Ave. No., 3rd St., 4th Ave. So., Washington.
- 2 May 1910: Downtown loop route via Washington, 4th Ave. So., 3rd St., to 1st Ave. N., then wye & return same.
- 22 November 1912: Downtown loop route via Washington, 4th Ave. So., 3rd St., 1st Ave. No., Washington, 2nd Ave. No., 3rd St., 4th Ave. So., Washington.
- 31 October 1914: Fort Snelling cars only, to Minneapolis via Minnehaha Ave., 27th Ave. So., Franklin Ave., 4th Ave. So., 11th St., to wye east of Hennepin.
- 4 September 1915: Speedway spur and loops opened from main line at 51st St. to auto race track at 53rd St. & 46th Ave. So.
- 31 December 1915: Downtown loop route of 1912 resumed by Fort Snelling cars for one week.
- 7 July 1917: Speedway spur abandoned.
- 16 January 1919: Minnehaha Falls cars thru-routed with Plymouth Ave. as MINNEHAHA-PLYMOUTH line.
- 19 October 1921: Fort Snelling cars also thru-routed with Plymouth Ave., as FORT SNELLING-MINNEHAHA-PLYMOUTH line.
- 1 August 1927: Operated thru from Hazel Park in St. Paul; designated 7TH-MINNEHAHA-PLYMOUTH line.
- 13 September 1932: Thru-routed with Hope St. instead of Hazel Park in St. Paul; designated MINNEHAHA 7TH-HOPE line.
- 6 July 1936: All service one-man. St. Paul thru-routing discontinued, and cars from Minneapolis operated only to Bridge Jct., Fort Snelling.
- 16 February 1946: Downtown loop route via Washington, 4th Ave. So., 3rd St., 2nd Ave. No., Washington. Plymouth Ave. thru-routing discontinued.
- 19 August 1950: Thru-routed with N. WASHINGTON line.

- 1 August 1952: Fort Snelling shuttle abandoned.
- 10 April 1953: N. Washington thru-routing discontinued; downtown loop of 1950 resumed.
- 2 May 1953: Abandoned south of 54th St. and 47th Ave. So. All owl service by bus.
- December, 1953 : Abandoned.



1617 southbound on Ft. Snelling line on September 30, 1949. (FH)



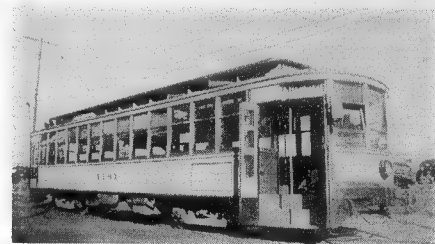
Minnehaha-Fort Snelling car eastbound through the Reservation, 9-48. (JS)



Fort Snelling shuttle car 1230 just after leaving wye; 9-48. (JS)

MONROE STREET

- 19 December 1891: From Hennepin Ave. and 1st St., via Hennepin, Central, Monroe, Broadway, Washington St. N.E., to 17th Ave. N.E. Thru-routed with BRYANT AVE. S.
- 18 October 1920: Thru-routed with GRAND AVE. S. instead of Bryant. (See GRAND AVE.)
- 4 December 1923: Extended on Washington St. N.E., to 22nd Ave. N.E.
- 26 November 1931: Extended on Washington St. N.E., to 27th Ave. N.E.
- 16 March 1932: One-man except rush hours.
- 9 July 1934: All service one-man.
- 6 July 1949: Began partial PCC operation.
- 18 October 1952: Thru-routed with NICOLLET.



1181 at 27th Ave. NE. & Washington St., the north end of Grand-Monroe line. (FH)

NICOLLET AVENUE

- 22 September 1890: From 1st Ave. S. & High St., via 1st Ave. S., Grant, Nicollet, to 38th St.
- 5 October 1890: . . . Nicollet, to 50th St. single track beyond 38th St.
- 13 August 1891: Part of service on 31st St. from Nicollet to Hennepin.
- 1893: Part of service on 31st St., from Nicollet to 4th Ave. S.
- 1897: Thru-routed with N. WASHINGTON AVE.
- 1898: Second track laid on Nicollet between 38th and 40th Sts.
- 1901: Second track extended to 42nd St.

NICOLLET AVE. (Continued)

- 1902: Thru-routed with PENN AVE. N.
- 1903: Second track laid on Nicollet between 42nd and 46th Sts.
- 1905: Branches on 31st St. abandoned (4th Ave. S. to Hennepin).
- 1906: Second track extended on Nicollet to 50th St.
- 25 June 1910: Thru-routed with Central Ave. as WASHBURN PARK - COLUMBIA HEIGHTS line.
- 1 March 1911: Single track built on Nicollet between 50th and 54th Sts.
- 16 January 1919: Central thru-routing discontinued; used wye at Marquette & 1st St.
- 1 July 1919: Thru-routed with 2ND ST. N.E.
- 1 December 1920: Part of service thru-routed with NORTHWEST TERMINAL.
- 1924: Second track laid on Nicollet between 50th and 54th Sts.
- 30 August 1928: From Marquette & 1st St., via Marquette, Grant, Nicollet, to 58th St.
- 1 June 1932: One-man owl service.
- 1 May 1933: One-man evening and Sunday service.

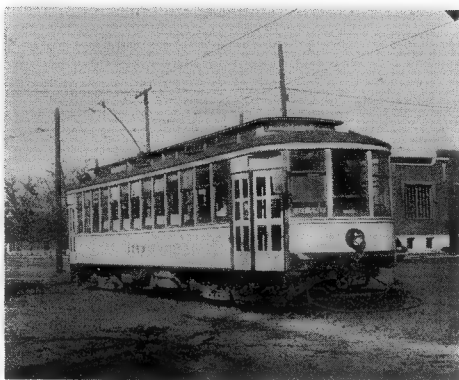


Nicollet car 403 on wye at Nicollet & Diamond Lake Road, 1950. (JS)

- 15 November 1947: . . . Nicollet to 62nd.
- 10 January 1948: Northwest Terminal thru-routing discontinued.
- July 1949: All service one-man. PCC operation begun.
- 18 October 1952: Part of service thru-routed with MONROE ST.

NORTHWEST TERMINAL

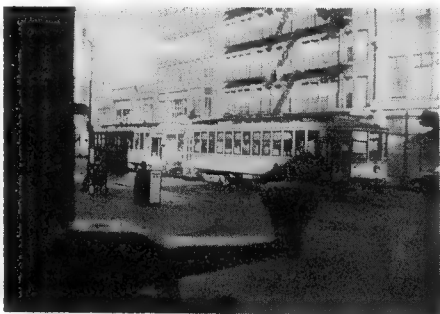
- 28 October 1920: From 6th St. & Marquette Ave., via 6th, Hennepin, E. Hennepin, 8th St. S.E., E. Hennepin, to 17th Ave. S.E.
- 1 December 1920: Thru-routed with NICOLLET AVE., via Marquette, 1st St., E. Hennepin.
- 27 December 1920: From Marquette and 6th, via Marquette, 1st St., E. Hennepin, 8th St. S.E., E. Hennepin, Johnson St., Stinson Blvd. (18th Ave. S.E.), to Broadway.
- 3 August 1921: Thru on E. Hennepin between 8th St. S.E. and Johnson St.
- 1 May 1933: One-man service evenings and Sundays. (Never operated owl service.)
- 3 April 1938: All Sunday cars discontinued.
- 10 January 1948: Abandoned.



1753 at Broadway & Stinson Blvd.; in service on Northwest Terminal line. (WO)

OAK STREET

- 14 June 1891: From Hennepin & Washington, via Hennepin, 4th St. S.E., Oak St., to Washington Ave. S.E.
- 1895: Thru-routed with BRYN MAWR.
- 1902: Thru-routed with KENWOOD. Part of service thru-routed with LAKE HARRIET.
- 13 September 1907: . . . Oak, Fulton, Erie, Dartmouth, to Superior; single track beyond Oak & Fulton.
- 1910: All service thru-routed with LAKE HARRIET. Second track laid on Fulton, to Erie.
- 28 October 1914: Double-tracked from Fulton & Erie to Dartmouth & Superior, and extended to 27th Ave. S.E. & Yale.
- 1 December 1931: One-man owl service.
- 1946: One-man Sunday service.
- 25 October 1949: All service one-man.
- 12 October 1952: Began PCC operation.
- 26 April 1953: Abandoned south of Oak and Washington.



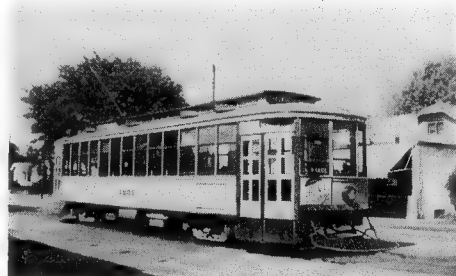
1315 on Oak-Harriet line as seen from 1586 at 8th & Hennepin, 1951. (EHN)

PENN AVENUE NORTH

- 13 August 1891: Downtown loop via Washington, 1st Ave. S., High St., Hennepin, then Washington, 20th Ave. N., Penn Ave. N., to 30th Ave. N.
- 1892: . . . Penn Ave. N., to 32nd Ave. N.
- 1902: Thru-routed with NICOLLET AVE.
- 25 June 1910: Thru-routed with 8TH AVE. S.
- 24 November 1911: . . . Penn Ave. N., to 38th Ave. N.
- 1914: 8th Ave. S. renamed Chicago Ave. south of 9th St.; lined redesignated CHICAGO-PENN.

PENN AVE. NORTH (Continued)

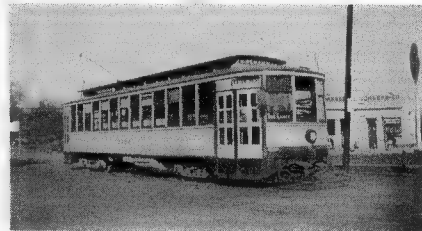
- 1920 (Only): Part of service thru-routed with LAKE NOKOMIS, part with E. 25TH ST.
- 1 December 1920: From 2nd Ave. S. and 6th St., via 2nd Ave. S., 8th St., 2nd Ave. N., 7th St., Emerson, Broadway, Penn Ave. N., to 38th Ave. N.
- 11 September 1922: . . . Penn Ave. N., 38th Ave. N., to Thomas Ave. N.
- 1 November 1923: . . . 38th Ave. N., Thomas Ave. N., to 42nd Ave. N.
- (See CHICAGO AVE. for dates of one-man svc.)
- 10 July 1953: Abandoned, except for once-a-week franchise run.



1801 at 42nd & Thomas, 1951. (EHN)

PLYMOUTH AVENUE

- 31 December 1891: From loop via Washington, 1st Ave. S., High St., Hennepin, then Washington, Plymouth, to Penn.
- 1894: Thru-routed with BLOOMINGTON AVE.
- 8 September 1912: . . . Plymouth, to Sheridan.
- 22 November 1912: From Washington and 2nd Aves. S., via Washington, . . .
- 16 January 1919: Thru-routed with MINNEHAHA FALLS.
- 19 October 1921: part of service thru-routed with FORT SNELLING.
- 1 August 1927: Fort Snelling service extended to downtown St. Paul.
- 1 June 1932: One-man owl service.
- 5 July 1936: All service one-man. Thru service to downtown St. Paul discontinued.
- 16 February 1946: Thru-routed with E. 25TH ST., instead of Minnehaha-Fort Snelling.
- December, 1953: Abandoned.



1320 pulls out of East Side Station in 1949 to go on Plymouth line. (BN)

ROBBINSDALE

- 1895: (Operated by the North Side St. Ry. with leased equipment.) From a connection with the N. Emerson line at 20th Ave. N. & Emerson, via 20th Ave. N., Penn Ave. N., Lowry Ave., Oak Lake Ave., France Ave. N., Crystal Lake Rd., to Robbinsdale at 42nd Ave. N.; all single track.

ROBBINSDALE (Continued)

5 November 1906: Purchased by TCRT. Thru service from Washington & Hennepin, via Washington, 20th Ave. N., then same as 1895.

31 October 1914: Track on Lowry from Penn to city limits at Xerxes, abandoned, and new route built on Crystal Lake Rd. (now Broadway) from Penn to Xerxes. End of double track was then at Penn. Thru-routed with St. Louis Park.

May 1923: Washburn loop replaces Russell Ave. wye.

13 December 1920: From 11th & Hawthorne, via Hawthorne, 2nd Ave. N., Emerson, Broadway, Oak Lake Rd., France Ave. N., Broadway, to Robbinsdale at 42nd Ave. N.

6 December 1929: Double track extended to Ewing Ave. & Oak Lake Rd.

18 May 1935: Thru-routed with FRANKLIN AVE. via 11th St. from 11th & Hawthorne.

29 November 1940: From 5th & Hennepin, via 5th St., 1st Ave. N., Washington, Broadway, Oak Lake Rd., France Ave. N., Broadway, to 42nd Ave. N. Thru-routed with 28TH AVE. S.

9 June 1942: Double track extended to France Ave. N. and Broadway.

11 October 1947: Abandoned west of 36th & France Aves. N.

10 July 1948: Robbinsdale service discontinued. Track abandoned west of Broadway & Penn Ave. N.



1198 at end of Robbinsdale line, 1946. (WM)

SECOND STREET NORTHEAST

4 August 1891: From Hennepin & 5th St., via Hennepin, 2nd St. N.E., 25th Ave. N.E., to Grand St. Thru-routed with WESTERN AVE.

3 November 1912: . . . 25th Ave. N.E., Grand St., to 30th Ave. N.E.

October 1915: Track connection made with MA&CR RR at 30th Ave. N.E., and Anoka cars run thru to downtown Mpls. via 2nd St. N.E.

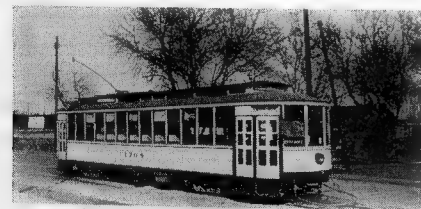
1 July 1919: Thru-routed with NICOLLET AVE. instead of Western; via Hennepin, 1st St., Marquette.

August 1939: Anoka passenger service discontinued.

22 November 1943: Track relaid on 30th Ave. N.E. to Marshall, to connect with Northern Pump Co. cars to Fridley (ex-Anoka line).

(For dates of one-man and PCC service, see NICOLLET AVE.)

1947: Northern Pump Co. service ended.



1704 at end of 2nd St. NE line, 1946. (SM)

SIXTH AVENUE NORTH

14 June 1891: From Washington and Hennepin, via Washington, 6th Ave. N., to Penn Ave. N.

1892: Thru-routed with 4TH AVE. S.

23 November 1893: . . . 6th Ave. N., to Russell Ave.

1897: Abandoned on 6th Ave. N. between Washington Ave. and 5th St. New line built on 5th St. from Hennepin to 6th Ave. N.

4 November 1918: Thru-routed with UNIVERSITY AVE. to St. Paul.

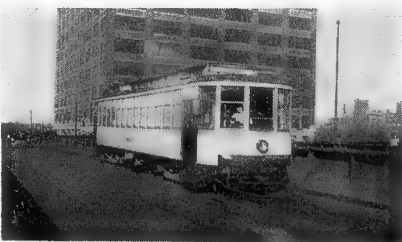
11 July 1923: Temporary route due to bridge construction over steam RR tracks, . . . 5th St., 1st Ave. N., 8th St., 2nd Ave. N., 7th St., 6th Ave. N., . . .

1924: Route of 4 November 1918 resumed.

10 November 1934: One-man owl service.

15 June 1939: Part of service thru-routed with E. 25TH ST. (One-man).

25 May 1940: Abandoned west of 5th Ave. N.



1403 eastbound on 5th St. near 3rd Ave. North, 1945. (WM)

ST. LOUIS PARK

December 1892: From Lagoon & Hennepin Aves, via Lagoon Ave., W. Lake St., to Brownlow Ave. in St. Louis Park. (Operated by an independent company.) All single track.

August 1897: Extended to Hopkins.

12 November 1906: Purchased by TCRT.

15 December 1906: Service between St. Louis Park and Hopkins discontinued except for one except-Sundays round trip.

1 May 1907: Abandoned between St. Louis Park and Hopkins.

16 May 1907: From Hennepin Ave. & 6th St., via Hennepin, Lagoon, W. Lake, to Brownlow.

1911: Double-tracked between Hennepin and Lagoon bridge.

1912: Double-tracked as far as W. Lake St. & Excelsior Blvd.

31 October 1914: Thru-routed with Robbinsdale line.

13 December 1920: Robbinsdale thru-routing discontinued; downtown loop established via Hennepin, 11th, Hawthorne, 1st Ave. No., 6th, Hennepin.

1 December 1931: One-man service evenings (never operated owl service).

15 February 1932: One-man service except rush hours.

21 November 1932: All service one-man.

27 August 1938: Abandoned.

UNIVERSITY AVENUE

9 December 1890: From High St. loop, via Washington Ave. S., Washington Ave. S.E., University, to city limits at Emerald Ave.

Thru service to downtown St. Paul.
July 1894: From loop via Washington, Hennepin, 6th St., 1st Ave. S., then Washington, . . .

UNIVERSITY AVE. (Continued)

9 May 1906: From loop via Washington, 1st Ave. N., 5th St., 2nd Ave. S., then Washington, . . .

2 May 1910: From wye at 1st Ave. N. and 6th St., via 6th St., 2nd Ave. S., Washington, . . .

9 February 1914: From wye at 5th St. and 5th Ave. N., via 5th St., 2nd Ave. S., Washington, . . .

4 November 1918: Thru-routed with 6th Av. N.

30 September 1920: From 6th Ave. N. and Russell Ave., via 6th Ave. N., 5th St., 5th Ave. S., Washington, . . .

11 July 1923: From Temporary wye at 5th St. & 3rd Ave. N., via 5th St., . . . (See SIXTH AVE. N. for temporary route of thru cars on that line.)

1924: Thru route and wye of 1920 resumed.

10 November 1934: One-man owl service.

25 May 1940: From wye at 5th St. & 5th Ave. N., via 5th St., . . . 6TH AVE. N. thru-routing discontinued.

December 1946: Full PCC operation begun.

4 April 1952: All service one-man.

December, 1953: Abandoned beyond Cedar, except for non-revenue shop trips.

WASHINGTON AVENUE NORTH

10 September 1890: From Washington and Hennepin, via Washington, to 42nd Ave. N., single track beyond 32nd Ave. N.

1891: Second track extended to 42nd Ave. N. (Camden loop).

1897: Thru-routed with Nicollet Ave. as WASHBURN PARK & CAMDEN line.

1 December 1899: From Camden Loop, via N. Lyndale Ave., to 49th Ave. N., single track. Shuttle service.

25 June 1910: Thru-routed with CEDAR AVE.

22 August 1913: Single track extended via N. Lyndale to 51st Ave. N., and thru service started from downtown.

11 November 1925: Abandoned on N. Lyndale from 45th to 51st Aves. N. New single track built on 45th Ave. N. to Bryant to 52nd Av. N.

8 November 1926: Thru-routed with Cedar Ave. as 34TH AVE. S. - N. BRYANT line.

1927: Second track extended from Camden loop, via N. Lyndale, 45th Ave. N., Bryant Ave. N., to 52nd Ave. N.

26 June 1932: One-man owl and Sunday svc.

26 June 1932: One-man owl & Sunday service.

19 June 1933: All service one-man.

2 August 1947: Abandoned north of Camden Loop (42nd Ave. N.). Redesignated 34TH AVE. S. - N. WASHINGTON line.

19 August 1950: Thru-routed with FORT SNEILLING instead of 34th Ave. S.

10 April 1953: Abandoned.

XERXES AVENUE SOUTH

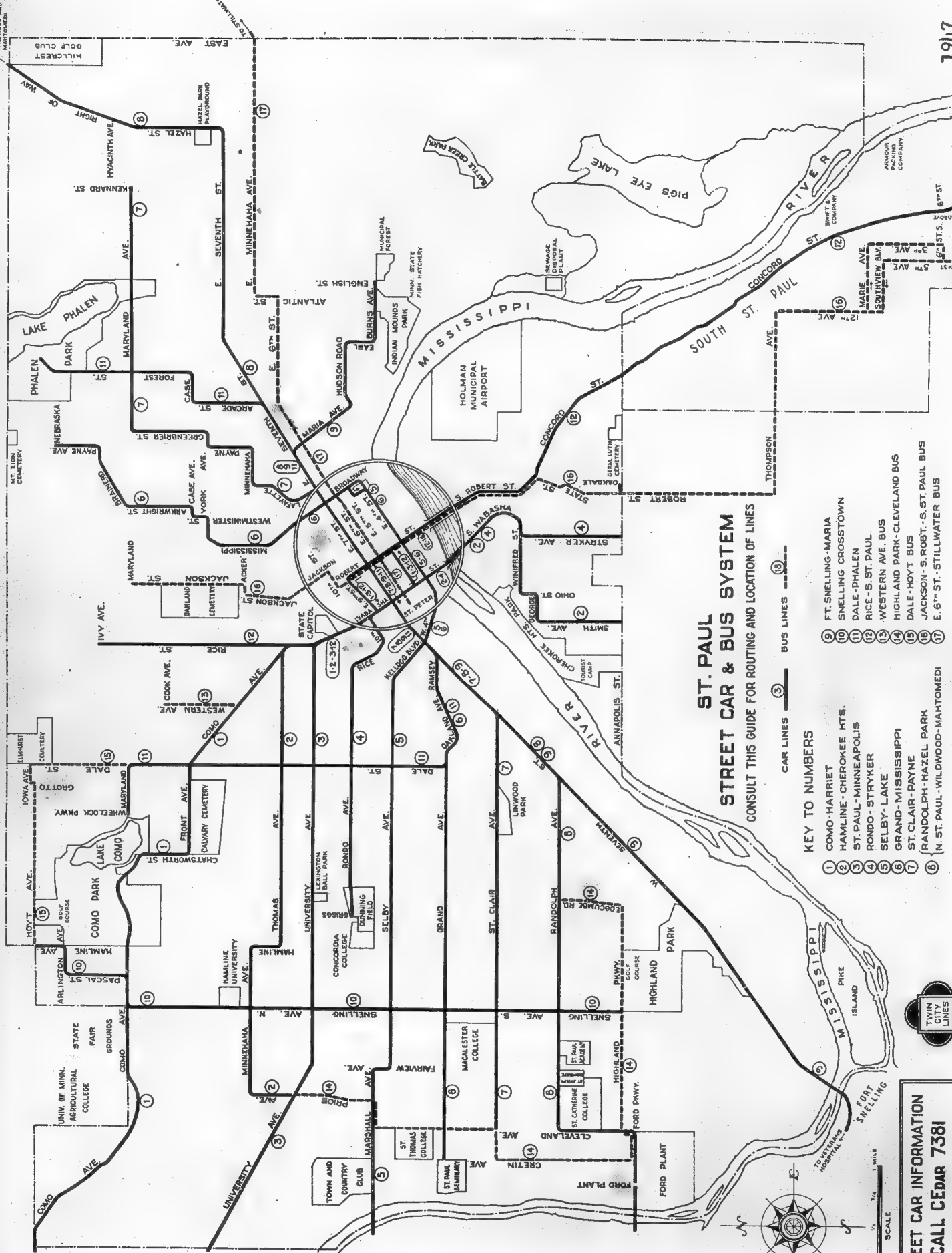
1 October 1913: From Hennepin Ave. and 1st St., via Hennepin, 31st St., PRW, Xerxes, to 50th St. Thru-routed with OAK ST.

6 November 1914: . . . Xerxes Ave., 50th St., to Penn Ave. S. Single track on 50th St. Penn cars signed OAK-HARRIET.

26 September 1927: Second track laid on 50th St. from Xerxes to Penn Ave. S.

(See OAK ST. for dates of one-man and PCC service.)

CITY OF MINNEAPOLIS



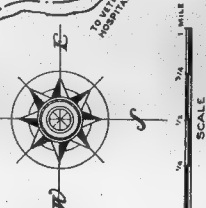
ST. PAUL STREET CAR & BUS SYSTEM

CONSULT THIS GUIDE FOR ROUTING AND LOCATION OF LINES

KEY TO NUMBERS

- 1 COMO-HARRIET
- 2 HAMLINE-CHEROKEE MTS.
- 3 ST. PAUL-MINNEAPOLIS
- 4 RONDO-STRYKER
- 5 SELBY-LAKE
- 6 GRAND-MISSISSIPPI
- 7 ST. CLAIR-PAYNE
- 8 RANDOLPH-HAZEL PARK
- 9 FT. SNELLING-MARIA
- 10 SNELLING CROSSTOWN
- 11 DALE-PHALEN
- 12 RICE-S. ST. PAUL
- 13 WESTERN AVE. BUS
- 14 HIGHLAND PARK-CLEVELAND BUS
- 15 DALE-HOYT BUS
- 16 JACKSON-S. ROBT.-S. ST. PAUL BUS
- 17 E. 6TH-ST. STILLWATER BUS

CAR LINES ③ BUS LINES ⑬



STREET CAR INFORMATION
CALL CEDAR 7381
INFORMATION DESK



ST. PAUL ROUTES DESCRIPTION

The following is an alphabetical listing giving history and routing of urban and "interurban" lines operated by electric street cars in the Twin Cities since 1890.

Lines within St. Paul appear first, then the Minneapolis lines.

The three "interurban" lines between the Twin Cities are listed under both cities, but the detailed description of the route is divided, half under each city.

Information upon which this listing was compiled came from TCRT official records.

CHEROKEE HEIGHTS

31 December 1890: From 7th & Wabasha, via Wabasha, Winifred St., Ohio St., George St., Smith Ave., to Annapolis St.

1894: Thru-routed with Mississippi St., as MISSISSIPPI & WEST ST. PAUL line.

8 November 1920: Thru-routing of 1894 discontinued. CHEROKEE HEIGHTS line from wye at 5th & Sibley, via 5th, Wabasha . . .

1 June 1932: Thru-routing resumed as MISSISSIPPI-CHEROKEE HEIGHTS line, via Broadway, 5th, Wabasha . . .

16 July 1932: One-man Sunday & Owl service.

1 April 1933: All one-man service.

2 December 1939: Thru-routed with HAMLINE Ave. instead of Mississippi St.

June 1949: Began PCC operation.

1 November 1952: Abandoned.



Hamline-Cherokee PCC 425 at wye, Charles & Prior, 1951. (CS)

COMO AVENUE

28 Feb 1891: From 5th & Robert, via Robert, 8th, Wabasha, Rice, Como, to Dale.

31 July 1891: . . . Como, Front, Chatsworth, to Como Park.

1 July 1898: . . . Como Park, via Como Ave., to city limits; through service to Minneapolis.

3 Sept 1921: Temporary route in downtown St. Paul: in via Wabasha, 5th, to wye at Sibley; out via 5th to Robert, then same as in 1898.

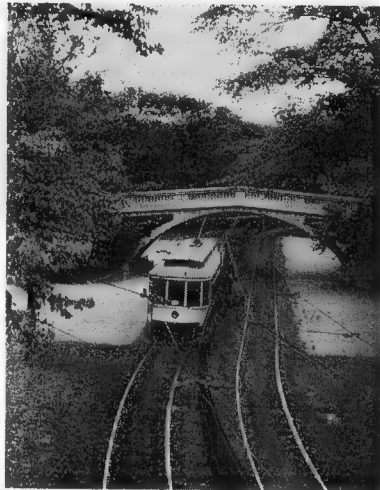
29 Oct 1921: Downtown loop via Wabasha, 5th, Robert, 9th, Wabasha.

4 April 1952: All service one-man.

October 1952: Began partial PCC service.

10 July 1953: Abandoned.

(Note: From 16 June 1906 to 3 August 1951 part of HOPKINS service operated through from St. Paul.)



Como-Harriet car westbound in Como Park, September 1950. (JS)

DALE STREET

23 October 1914: From 7th & Wabasha, via 7th, Ramsey St., Oakland Ave., Grand Ave., Dale St., to Maryland Ave. Thru-routed with FOREST AVE. (Phalen Park) via Payne Ave.

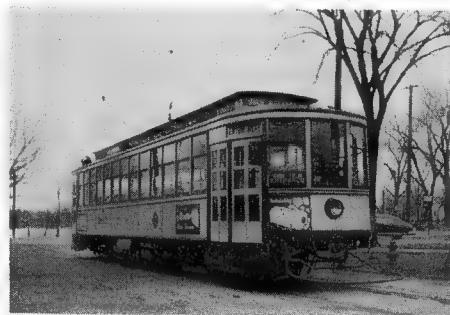
15 November 1923: In via Dale, Maryland, to Wheelock Parkway; single track on Maryland.

6 June 1932: One-man except rush hours.

13 April 1933: All service one-man.

30 October 1948: . . . 7th, 4th, Broadway, 5th, Rosabel, 4th, & return same. Thru-routing discontinued.

3 May 1952: Abandoned.



Car 1512 at Maryland & Wheelock on April 15, 1952; this was the terminus of the Dale line at east shore of Lake Como. (RO)

FOREST STREET & PHALEN PARK

(See Payne Ave. for route before 1913)

10 November 1913: From 7th & Wabasha, via 7th, Arcade St., Case Ave., Forest St., to Maryland Ave.

23 October 1914: . . . Forest St., to Phalen Park.

6 June 1932: One-man except rush hours.

13 April 1933: All service one-man.

30 October 1948: Abandoned from Forest & Maryland to 7th & Arcade; remainder again operated as part of PAYNE AVE. line.

GRAND AVENUE

22 February 1890: In via 7th, Wabasha, 5th, to Broadway, out via Broadway, 7th, Ramsey, Oakland, Grand, to Cretin Ave.

1902: Designated LAFAYETTE & GROVELAND PARK line, and thru-routed with Payne Ave.

1910: Downtown loop via 7th, 4th, Rosabel, 3rd, Broadway, 4th, 7th; thru-routing with Payne Ave. discontinued.

1920: Designated PAYNE-GROVELAND line, and again thru-routed with Payne Ave. direct via 7th St. in both directions.

1 August 1927: Thru-routing discontinued; downtown loop of 1910 resumed.

16 July 1932: One-man owl & Sunday service.

3 November 1932: One-man except rush hours.

1 June 1933: All service one-man.

2-December 1939: Thru-routed with MISSISSIPPI St., via 7th, 4th, Broadway.

October 1947: Began PCC operation.

1 November 1952: Abandoned.



PCC 428 westbound at Grand & Snelling in April 1952 on Grand-Mississippi line. (JS)

HAMLINE AVENUE

13 January 1891: From 7th & Wabasha, via Wabasha, University, Lexington, Minnehaha, Snelling, to Como.

31 July 1891: . . . Snelling, Como, to Langford Ave.

1 July 1898: . . . Snelling, to Como. Track beyond Snelling absorbed by Como Ave. inter-city line.

29 June 1906: From 5th & Wabasha, via Wabasha, Rice St., Como Ave., Thomas Ave., Hamline Ave., Minnehaha Ave., Prior Ave., to University Ave. Track on Lexington from University to Minnehaha, and on Minnehaha from Lexington to Hamline, was abandoned. Thru-routed as HAMLINE-JACKSON line.

1908: In via Wabasha, 5th, Robert, 3rd, Sibley, 5th, then same as 1906. Designated HAMLINE-UNION DEPOT line.

8 November 1920: Thru-routed as HAMLINE-SO. ROBERT line, via Wabasha, 5th, Robert, to Annapolis.

16 June 1932: One-man except rush hours.

11 June 1934: All service one-man.

29 October 1938: Thru-routed as HAMLINE-STRYKER line, via Wabasha, Winifred, Stryker to Annapolis.

2 December 1939: Thru-routed as HAMLINE-CHEROKEE HEIGHTS line.

June 1949: Began PCC operation.

1 November 1952: Abandoned.

RANDOLPH AVENUE (Continued)

- 19 August 1925: Thru service to Ford Plant.
- 1 August 1927: Thru-routed with Hazel Park and Mahtomedi.
- 1 August 1927: Thru-routed with HOPE STREET instead of Hazel Park.
- 24 July 1932: One-man Sunday & owl service.
- 11 September 1932: Thru-routed with Hazel Park and Mahtomedi.
- 8 September 1934: One-man service except rush hours.
- 2 April 1936: All service one-man.
- 3 November 1951: E. 7th St. abandoned east of Lafayette.
- 17 May 1952: W. 7th-Randolph-Ford Plant abandoned.



Randolph-Hazel Park and Plymouth-E. 25th cars at the double-track Ford Loop on September 22, 1950. (JS)

RICE STREET

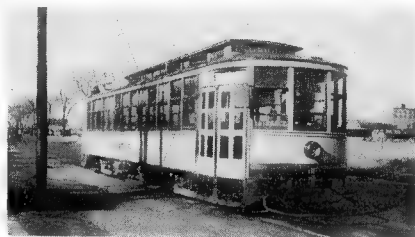
- 28 February 1891: From Rice & South St. (now Ivy Ave.), via Rice, Wabasha, 5th, Robert, Concord, State, So. Robert, to Annapolis. Called RICE & STATE line.
- 28 July 1909: Part of service thru-routed with South St. Paul.
- 8 November 1920: Thru-routed with STRYKER Ave., via Wabasha, Winifred, Stryker, to Annapolis.
- 1 June 1932: One-man service except rush hours.
- 13 July 1932: Again thru-routed with South St. Paul.
- 19 June 1934: All service one-man.
- 17 May 1952: Abandoned.



Track repairs made this motorman take extra precautions as his car negotiated the "grass-hopper." Car 1569 on the Rice-South St. Paul line is seen northbound on Rice at Sherburne on October 11, 1951. (EHN)

RONDO AVENUE

- 28 Feb 1891: From 7th & Wabasha, via Wabasha, 10th, Rice, Rondo, to Dale.
- 1892: Through-routed with Payne Ave. as LAFAYETTE & RONDO line.
- 14 Aug 1893: . . . Rondo, to Miller (Avon).
- 1895: Payne Ave. through-routing discontinued.
- 1902: Through-routed with MARIA AVE.
- 23 Nov 1905: . . . Rondo, to Chatsworth.
- 31 July 1910: From 7th & Wabasha, via 7th, St. Peter, 10th, . . .
- 7 Sept 1912: . . . Rondo, to Griggs.
- 13 July 1932: One-man except rush hours.
- 3 April 1933: All service one-man.
- 2 Dec 1939: Through-routed with STRYKER AVE. via Wabasha, 10th, Rice, Rondo to Griggs.
- 24 Jan 1948: Abandoned.



Car 1550 at the Rondo end of Rondo-Stryker line. (BN)

SOUTH ROBERT STREET

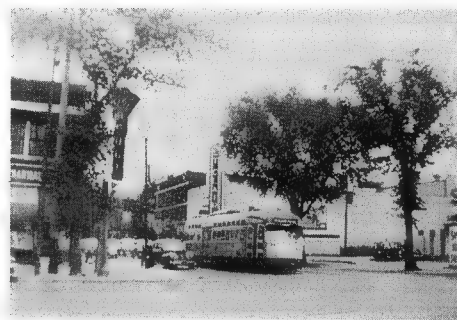
- 28 February 1891: From So. Robert & Annapolis to Rice & South (See RICE ST.).
- 4 November 1914: Thru-routed with WESTERN AVE.
- 8 Nov 1920: Through-routed with HAMLINE.
- 16 June 1932: One-man except rush hours.
- 11 June 1934: All service one-man.
- 29 Oct 1938: Abandoned.

ST. CLAIR AVENUE

- 1915: From 7th & Wabasha, via 7th, St. Clair, to Oxford.
- 1917: . . . St. Clair, to Fairview.
- 2 Dec 1922: . . . St. Clair, to Cleveland.
- 1 Aug 1927: Through-routed with PAYNE AVE.
- 18 July 1932: One-man except rush hours.
- 13 July 1933: All service one-man.
- Oct 1947: Began PCC service.
- 30 Oct 1948: Payne Ave end rerouted to Phalen Park.
- 6 Sept 1952: Abandoned.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	STATION
1	2	3	4	5	6	7	8	9	10	11	12	EMERGENCY
13	14	15	16	17	18	19	20	21	22	23	24	CONTINUATION
25	26	27	28	29	30	31						
HAMLINE-SOUTH ROBERT												
44												010534
1	2	3	4	5	6	7	8	9	10	11	12	Isabel
13	14	15	16	17	18	19	20	21	22	23	24	University Ave.
25	26	27	28	29	30	31						Dale St.
33	34	35	36	37	38	39	40	41	42	43	44	Snelling Ave.

INTERURBANS
The National Electric Railway News Digest



PCC 358 westbound at St. Clair & Snelling on September 5, 1952; car was in service on the St. Clair-Payne line. (FH)

SELBY AVENUE

(Selby Ave. service by Merriam Park cars before 1906)

21 May 1906: From Rosabel & 4th, via Rosabel, 3rd, Broadway, 4th, 3rd (Kellogg), Selby, Fairview, Marshall, to Minneapolis via Lake St., as SELBY-LAKE line.

10 October 1906: Temporary route due to tunnel construction, . . . 4th, Wabasha, 10th, Rice, Rondo, Farrington, Selby, . . .

19 December 1906: Temporary route changed to . . . 4th, Wabasha, 10th, Smith, 3rd, Selby, . . .

11 August 1907: From Broadway & 4th, via Broadway, 5th, Rosabel, 4th, 3rd (Kellogg), Selby, . . . First cars thru Selby tunnel.

3 June 1950: One-man service Sundays and evenings.

4 April 1952: All service one-man.

10 July 1953: Abandoned.



The Selby Ave. Tunnel was the best known feature of this line. Here is seen a car emerging from the east portal of the bore in 1946. The large building is St. Paul's Cathedral. (FH)

SEVENTH STREET

24 Oct 1890: From connection with Grand Ave. line at W. 7th & Ramsey Sts., via 7th to Tuscarora.

28 Feb 1891: From 7th & Wabasha, via 7th to Mississippi River opposite Fort Snelling.

1 Sept 1893: From 7th & Duluth, via 7th to Mississippi River opposite Fort Snelling.

21 June 1909: . . . 7th, Fort Snelling, to downtown Minneapolis.

1915: From 7th & Wabasha, via 7th, to Fort Snelling and Minneapolis.

19 Oct 1921: Eastern terminus restored to 7th & Duluth; through-routed with Minnehaha-Plymouth line in Minneapolis.

1 Aug 1927: From Hazel Park . . .

17 July 1932: Owl service one-man.

11 Aug 1932: From 7th & S. Robert . . .

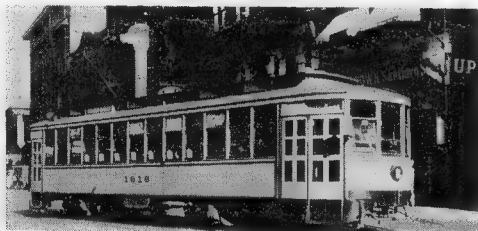
SEVENTH STREET (Continued)

11 Sept 1932: Through-routed with Hope St. as MINNEHAHA-7TH-HOPE line.

6 July 1936: To Fort Snelling wye only; through-routing with Minnehaha-Plymouth line discontinued. All service one-man.

2 Dec 1939: Through-routed with MARIA AVE., operated through Fort Snelling to 54th St. & 47th Ave. in Minneapolis.

17 May 1952: Abandoned.



Car 1618 of the Seventh Street line is seen here at 5th & Wabasha en route via the Rice St. pullin route to Duluth Station, 1941. (HR)

SNELLING AVENUE (See HAMLINE before 1905)

2 Sept 1905: From Snelling & Grand, via Snelling to Como.

1909: From Snelling & Randolph, via Snelling, Como, to Pascal.

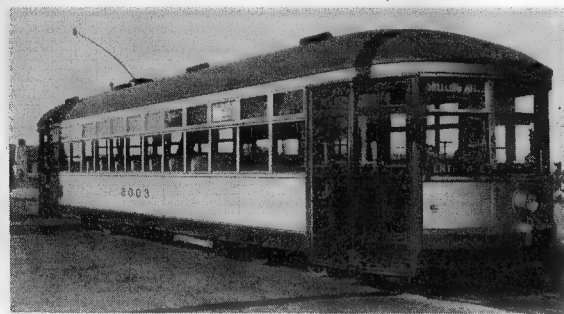
1915: Via 7th St. line to Snelling & Randolph, then same as 1909.

8 June 1921: Randolph & Snelling, via Snelling, Como, Pascal, to Arlington; 7th St. routing discontinued.

10 Nov 1924: . . . Pascal to Arlington.

7 Aug 1927: From Snelling & Otto St., via Snelling, Como, Pascal, Arlington, Hamline to Hoyt.

6 Sept 1952: Abandoned.



Lightweight 2003 at the north end of the Snelling Ave. Crosstown line, 1937. (HR)

SOUTH ST. PAUL

14 Jan 1891: From 5th & S. Robert, via S. Robert, Concord, to Witham. Through-routed as RICE & CONCORD.

22 July 1905: . . . Concord, to 6th St. in South St. Paul.

1 Aug 1905: . . . Concord, to Linden St., Invergrove.

28 July 1909: Again through-routed w/RICE.

8 Nov 1920: RICE through-routing discontinued. Downtown loop via S. Robert, 9th, Wabasha, 5th, S. Robert.

19 Aug 1924: Temporary route in via S. Robert, Delos, 4th, S. Robert, 5th; out via Wabasha, Delos, Robert.

23 Dec 1924: Loop via Wabasha, 5th, Robert, 8th, Wabasha.

1 May 1925: . . . From Wabasha, 5th, Robert, 3rd, Sibley, 5th, Robert, 7th, Wabasha.

27 Aug 1926: Loop via Wabasha, Robert, 8th, 5th, Robert.

31 Oct 1928: . . . Concord, to Faulkner Ave, Invergrove, over tracks of former St. Paul Southern Railway from Linden.

1 June 1932: One-man except rush hours.

13 July 1932: Again through-routed w/RICE.

13 Oct 1933: Abandoned between Linden and Faulkner in Invergrove.

19 June 1934: All service one-man.

17 May 1952: Abandoned.



Rice-South St. Paul car on wye at Invergrove city limits in September, 1950. (JS)

STRYKER AVENUE

1 July 1894: From 5th & Wabasha, via Wabasha, Winifred, Stryker, to Annapolis.

1908: Through-routed with JACKSON ST.

8 Nov 1920: Through-routed with RICE ST.

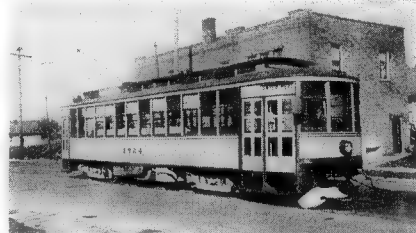
13 July 1932: JACKSON ST. routing restored.

18 Sept 1932: All service one-man.

29 Oct 1938: Through-routed with HAMLINE.

2 Dec 1939: Through-routed with RONDO AVE.

24 Jan 1948: Abandoned.



Car 1524 at Stryker end of Rondo-Stryker line. (BN)

UNIVERSITY AVENUE

9 December 1890: Loop via Wabasha, 5th, Robert, 8th, to Wabasha, then via Wabasha, University, to City Limits (thru service to Minneapolis).

4 November 1918: Thru-routed with Sixth Ave. No. line in Minneapolis.

3 September 1921: Temporary downtown route via Wabasha, 5th, to wye at Sibley; return via 5th, Robert, 9th, to Wabasha.

29 October 1921: Loop via Wabasha, 5th, Robert, 9th, Wabasha.

11 December 1946: Began full PCC service.

4 April 1952: All service one-man.

31 October 1953: Rail service discontinued. Track from Washington & Cedar in Minneapolis to University & Snelling in St. Paul retained for shop trips.

WESTERN AVENUE

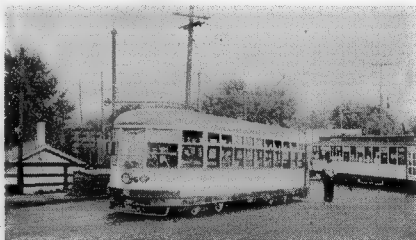
4 Nov 1914: From 5th & S. Robert, via 5th, Wabasha, Rice, Como, Western, to Cook; through-routed with S. ROBERT line.

8 Nov 1920: Through-routed with JACKSON.

13 July 1932: Double-end shuttle car only on Western Ave.

9 Sept 1932: One-man at all times.

23 Aug 1941: Abandoned.



Car 3 on Western Ave. line at junction with Como-Harriet line, car 1318.

(Left) Car 415 passing State Capitol in 1953; in service on University Ave. interurban line, the last line to operate in St. Paul. (EHN)



CAR ASSIGNMENTS, October 21, 1947:

(This is intended to present a typical day of service. It is impossible to present a table of service of the various routings of lines throughout the years. This table is from the Schedule Department's records and was picked at random to illustrate service. One should bear in mind that at the highest point in TCRT's operations, reached in 1931, 1,021 cars were operated.)

CARHOUSE and Line	AM	Day	PM	Night	Owl
EAST SIDE					
Como-Harriet-Hopkins	52	27	50	13	3
Oak-Harriet	24	12	24	8	1
Inter-Campus Special	6	3	2		
Interurban Extras	6		4		
NICOLLET					
Nicollet-2nd St. NE-NW Term.	54	20	48	15	1
Glenwood-4th Ave.	27	10	28	8	1
LAKE STREET					
Minnehaha-Fort Snelling	20	12	20	8	2
Fort Snelling Extension	1	1	1	1	
Interurban Extras	2				
NORTH SIDE					
Chicago-Penn-Fremont	73	27	75	20	3
Broadway	4	3	4	2	
Interurban Extras	6		3		
SNELLING					
Interurban	57	29	67	13	2
Snelling Ave.	14	6	12	6	
Rice-So. St. Paul Extras	9				
Como Locals	1				
DULUTH					
Rice-So. St. Paul	16	8	18		2
Rondo-Stryker	7	4	7	7	1
Fort Snelling-Maria-47th Ave.	12	7	12	3	2
NICOLLET & EAST SIDE					
Bryant-Johnson	Nic 30	14	34	10	2
	ES 17	6	15	4	
	47	20	49	14	2
Grand-Monroe	Nic 13	6	14	4	
	ES 13	3	12	3	
	26	9	26	7	1

LAKE STREET & EAST SIDE

Bloomington-Columbia Heights	LS 17	7	18	6	1
	ES 15	5	12	4	1
	32	12	30	10	2
Plymouth-East 25th St.	LS 23	7	20	7	2
	ES 2	1	7	1	
	25	8	27	8	2

LAKE STREET & NORTH SIDE

28th Ave.-Robbinsdale	LS 27	9	21	7	
	NS 13	3	8	1	
	40	12	29	8	
34th Ave. S.-N. Bryant	LS 17	8	15	6	2
	NS 9	2	5	2	
	26	10	20	8	2

LAKE STREET & SNELLING

Selby-Lake	LS 39	24	42	15	3
	Sn 17	1	20	5	
	56	25	62	20	3

DULUTH & SNELLING

Grand-Mississippi	Du 11	1	7	2	1
	Sn 13	7	20	4	1
	24	8	27	6	2
Hamline-Cherokee	Du 4	1	4	2	
	Sn 13	6	14	5	2
	17	7	18	7	2
St. Clair-Payne	Du 9	4	15	3	
	Sn 11	5	15	4	2
	20	9	30	7	2
Dale-Phalen	Du 6	3	11	2	1
	Sn 6	4	7	3	1
	12	7	18	5	1
Randolph-Hazel Pk.-Mahtomedi	Du 23	9	25	7	2
	Sn 7	4	18	2	
	30	13	43	9	2

Totals:

EAST SIDE	125	57	122	33	6
NICOLLET	124	50	124	37	5
LAKE STREET	136	68	137	50	10
NORTH SIDE	97	35	92	25	3
Minneapolis Total	481	213	474	145	24
SNELLING	140	62	142	42	7
DULUTH	88	37	91	32	9
St. Paul Total	228	111	232	74	16
TWIN CITY TOTAL	709	324	706	219	40

CAR ASSIGNMENTS

PAY-AS-YOU-ENTER: The Pay-As-You-Enter system of fare collection was first introduced on the 4th Ave. S.-6th Ave. N. line on April 28, 1918. This was done as follows: the long seat on the gate side of the cars next to the rear bulkhead was removed and a small seat for the conductor was installed. The new Johnson farebox was placed on an iron standard reaching from floor to roof. The overhead registers were moved from the front bulkhead to the rear bulkhead. The lever operating the cash side was connected to a foot pedal at the base of the standard. The lever operating the transfer and ticket side was connected to a cord which hung down next to the bulkhead. The cord operating the overhead bell was moved from the pole side to the gate side of the car and dropped down to a point near the farebox. When the conductor saw the coins as they were dropped into the box and had determined they were valid, he pressed the foot pedal for the cash side of the register. When he got transfers he pulled the transfer cord. Otherwise he operated the farebox as they do now: dropping the coins into the box by pushing down the lever and then registering the coins by grinding them through.

As cars were made ready, the PAYE system was introduced on the various lines. For example: 11-17-18 Monroe & Bryant 11-22-18 Grand & Johnson 12-4-18 54th St. & Col. Hts. The changeover to one-man operation did away with registers, but Johnsons remained.

AVERAGE SPEEDS: As of May 20, 1946, TCRT car speeds were as follows:

Line	Mileage	Day	Rush	Nights	Owl
Oak-Harriet	9.96	11.9	10.3	12.2	13.6
Ply.-E. 25	10.28	12.3	11.2	12.3	14.0
Nic.-2nd St.	9.38	11.7	10.6	11.7	13.7
Grand-Monroe	8.19	10.9	10.0	10.9	13.6
Bryant-Johnson	10.7	11.7	11.1	12.2	13.4
Glenwood-4th	6.94	12.2	10.7	12.3	13.7
Bloom.-Col.	11.05	13.3	12.0	13.5	14.4
34 S.-Bryant	12.15	12.9	12.0	13.3	14.9
Chicago-Penn	10.54	12.4	11.3	12.4	14.0
28 S.-Robbins	13.20	12.6	11.8	13.0	14.1
Grand-Miss.	9.13	12.7	11.2	13.7	14.0
Hamline-Cher.	8.22	12.0	11.2	12.0	13.3
Dale-Phalen	8.69	11.1	9.8	11.9	12.4
Snelling Ave.	5.26	10.8	10.8	10.8	---
Rice-S-St.P.	9.78	12.8	11.1	13.3	15.0
St.C.-Payne	9.80	12.5	11.1	14.0	14.0
Rand.-H&L Pk.	11.20	13.2	11.4	14.0	14.9
Rondo-Stryker	5.19	11.5	10.0	11.5	11.9
Ft Snell-Maria	10.67	13.6	12.3	13.6	15.2
Interurban	10.36	11.7	10.9	12.2	13.8
Selby-Lake	10.81	12.2	10.6	12.7	15.1
Hopkins-C.L.	4.41	20.3	16.5	20.3	---
7th-Mahtomedi	13.35	15.7	15.1	16.4	---
Inter-campus	3.61	15.5	15.5	---	---
Chi-Fremont	10.71	12.6	11.5	12.6	14.3
Broadway	3.45	11.5	10.9	12.9	---
Snell. Stub	1.07	10.7	10.7	10.7	---
N. Emerson	3.78	---	11.3	---	---
M'ha-Ft.S.	8.85	13.6	12.4	13.6	15.2
SYSTEM	263.89	12.6	11.4	12.8	14.2

CARS ON LINES, P.M. RUSH, 4-28-47:

Chicago-Penn-Fremont	76
Selby-Lake	62
Mpls.-St. Paul	52
Como-Harriet	50
Nicollet-2nd St.	49
Bryant-Johnson	47
28 Av. S.-Robbinsdale	31
34 Av. S.-N. Bryant	29
Bloomington-Col. Hts.	28
Grand-Monroe	26
Glenwood-4th Ave.	26
Plymouth-E. 25th	26
Oak-Harriet	25
Minnehaha-Ft. Snelling	20
Broadway	4
Inter-campus Special	2
Fort Snelling Stub	1
Randolph-Mahtomedi	41
Grand-Mississippi	28
St. Clair-Payne	27
Hamline-Cherokee	18
Rice-So. St. Paul	16
Dale-Forest	15
Ft. Snelling-Maria	12
Snelling Ave.	12
Rondo-Stryker	7

SKIP-STOP: The electric railway industry in general went to the skip-stop plan of operation as a war-time economy measure. TCRT followed the trend, and the skip-stop plan went into effect in the Twin Cities on August 11, 1918.

LAKE MINNETONKA LINES

HISTORY: In 1879 the Minneapolis & St. Louis RR extended a branch to Excelsior from the Minneapolis-Albert Lea main line at Hopkins. On its way past Carson's Bay this branch passed near the Hotel St. Louis at Solberg's Point. The Chicago Milwaukee & St. Paul Ry. later constructed a branch to the hotel itself, which remained a Minnetonka landmark until torn down in 1907. In addition to the lines of the M&STL and CM&STP in this area, the original route of the Great Northern Ry. between Wayzata and St. Bonifacius on the Hutchinson branch was via Hopkins and Excelsior. This stretch of the GN was relocated in 1900 via Minnetonka Beach and Mound, and a suburban service started to Mound which lasted till 1924.

Soon after abandonment of the Minneapolis Lyndale & Minnetonka Ry's steam route to Excelsior, proposals were made for the construction of an electric railway to that point. One of 1896 was for a line to follow the highway out Lake St. Blvd. and Superior Ave. The M&STL and GN each suggested electrifying their existing routes to Excelsior, perhaps by third rail. For several years previous to 1904, TORT had been considering the advisability of building lines outside the Twin Cities, and for that purpose had organized the Minneapolis & St. Paul Suburban RR as a subsidiary with the right to purchase, build, lease, own, and operate such electric railroads. This new company first built the lines to Stillwater, South Stillwater, South St. Paul, White Bear, and Mahomet.

In pursuance of the 1904 decision to construct a line from Minneapolis to Excelsior, the M&STPS early in 1905 obtained from the villages of Excelsior and West Minneapolis (later Hopkins) the necessary ordinances authorizing it to build in and thru these municipalities. This company immediately purchased a portion of the old right of way of the ML&M Ry, and began construction of a double-track interurban route from the westerly city limits of Minneapolis to Excelsior, fourteen miles. Feeder and trolley wires over this distance received power from substations built at Hopkins and Excelsior. One steel bridge was erected across the M&STL RR and CM&STP Ry at Hopkins and another over the M&STL RR at the east edge of Excelsior.

The first track was ready in time to open the line for regular service on 30 September 1905, and the second track was completed early the next spring. Between the Minneapolis city limits and Excelsior, many of the curves of the old Motor Line were eliminated and the grade made more nearly level. Eighty-pound rail was used thruout. Electric arc lights were fastened to the span-wire poles at 400-foot intervals, and presented as a scenic attraction at night.

On 19 October 1905, M&STPS leased the branch of the Milwaukee Road extending from Hopkins to Deephaven, and electrified the line in the spring of 1906. The Deephaven branch traversed a route replete with frequently-recurring succession of reverse curves, some sharp, some gentle. The entire branch was single track with no intermediate sidings. The line of the Minneapolis & St. Louis RR to Winthrop was crossed at grade near Williston Park, each route being protected by a single-bladed, two-indication, lower-quadrant semaphore in

each direction, manually-operated from a tower at the crossing.

The Tonka Bay branch of the M&STL was leased in September 1907, and the electric line of M&STPS extended from Excelsior to Manitou Jct. on its own FRW alongside the M&STL track, thence over the leased branch to the Lake Park Hotel. This extension was opened for service 30 May 1908, and was always single track. A boat dock was built at Wildhurst, and a loop was connected to the Tonka Bay main line 700 feet away.

The sixty-five acres of land on Big Island, half a mile north of Excelsior, were bought for the establishment of an amusement park and picnic grounds. The latter included kitchen facilities with stoves, running water, and iced storage units. A power transmission line was extended to the island by submarine cable, and a substation with sufficient capacity to supply all needs there was built. Well-known bands and orchestras were hired to give concerts in the music casino. The Lake Park Hotel at Tonka Bay was leased from the M&STL RR on 13 June 1908.

OPERATION: During the summer months typical base headway on weekdays was half-hourly to Excelsior, hourly to Tonka Bay, and every two hours to Deephaven. Cars to Tonka Bay and Deephaven displayed destination signs specifying each point, while cars to 2nd Street, Excelsior, used signs reading "Lake Minnetonka". For several years, an early trip was operated daily for the benefit of fishermen, leaving Minneapolis at 4.03 a.m. for Excelsior. Sunday was the big day on the Minnetonka lines. Schedules provided for ten-minute headway, but numerous extras would be added to handle the crowds on a pleasant day. As many as sixty cars might be on the line at one time when some special event was held at Excelsior. A dispatcher was stationed at the Excelsior yard, communication with train crews being provided at various points by wooden phone booths secured by a company lock. The Excelsior Docks were the busiest place on the system, as connections were made with all upper lake steamboat routes at that point. A wye was located at the docks, with a six-track storage yard opposite having a capacity of about forty cars. Half-hour headway was provided to Tonka Bay, with every other car running via Wildhurst Loop to connect with the lower lake steamboat routes. LAKE MINNETONKA cars ran local west of the Minneapolis city limits; EXCELSIOR LIMITED cars stopped only at 9th Ave., Hopkins; EXCELSIOR EXCURSION cars stopped only at 9th Ave., Hopkins, and did not run beyond the Excelsior Docks.

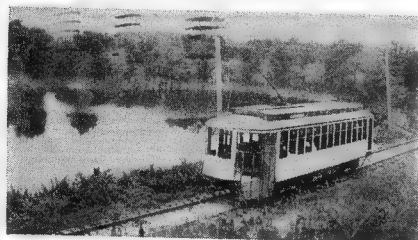
Originally all Minnetonka and Hopkins cars called the dispatcher at Lake Harriet Loop. This was changed in May 1909 to the city limits and pit phone at 44th & France. Deephaven cars also reported at Deephaven Jct. in both directions, and before leaving Deephaven, inbound. Tonka Bay cars reported in both directions at 2nd Street, Excelsior, and before leaving the end of the line at Tonka Bay. Maximum speed between France Ave. and Excelsior was prescribed by the operating rules as sixty miles per hour, with 2,000-foot spacing of cars. Minnetonka cars made only certain stops within Minneapolis, outbound to take passengers, inbound to leave passengers, as listed in Table "A". Baggage and express service was given to all points on the Minnetonka lines, includ-

ing the steamboat routes. Shipments for the latter were transferred at Excelsior, Wildhurst, or Deephaven, thus serving many points not reached by highway or rail. Two round trips Monday thru Saturday were made between Minneapolis and Tonka Bay, and one to Deephaven. During its early years of operation, the baggage car ran thru from St. Paul. One trip to Tonka Bay was also discontinued. All shipments were loaded at the station on 6th St. between 1st Ave. N. & Hennepin Ave. in Minneapolis. The usual procedure was to run from there to Tonka Bay, return to 9th Ave., Hopkins, back into Hopkins, wye and back out to the main line again, then head west to Deephaven. The car returned direct to Minneapolis from Deephaven. Baggage and express was delivered at various road crossings and stops along the route in addition to the regular stations at Hopkins, Deephaven, Excelsior, and Tonka Bay. Baggage, but no express, was transferred to the steamboats at the docks at Excelsior and Wildhurst. Baggage service was discontinued 10 September 1923.

When the line first opened to Excelsior in 1905, cars reached downtown Minneapolis via Hennepin Ave. to 3rd St., to 1st Ave. N., to 6th St., to Hennepin, and return to Excelsior. Layover was taken at 1st Ave. N. & 3rd St. In 1907 a waiting room and ticket office was established at 17 No. 6th St.; the cars then looped via 7th St. to 1st Ave., to 6th St., and took their layover in front of the ticket office. Small wayside shelters were erected at most of the FRW stops west of France Ave. One of the largest, at Blake, had an iron fence around it, the better to keep the youngsters from a nearby boy's school off the tracks. Roof signs on some of these shelters instructed: "To stop trains at night, a light should be waved across the track when train is at least 1,000 feet distant". Public timetables referred to the cars as trains. This was a state regulation, as the suburban lines were operated under modified steam-road rules.

Old timetables contained considerable text describing the territory served, as exemplified by this excerpt from the folder dated 1 June 1922: "Beautiful Lake Minnetonka! . . . has an area of 21.6 square miles and a shore line of 125.3 miles, of which 13.9 miles is island frontage. Its greatest width is 2.7 miles. The Upper Lake has a shore line of 42.1 miles, while the Lower Lake has 33.6 miles. Big Island is six miles around, and there are fourteen islands in all, plus 24 distinct bays. Steamboat service is furnished by TOL to 23 landings. Weekday excursions on Lake Minnetonka include a Trolley Ride and a Two-Hour trip around the famous lake, all for 75 cents from Minneapolis. Daily except Saturday and Sunday, train service to Excelsior or Wildhurst, excursion tickets good on any train leaving Minneapolis from 8.00 a.m. to 3.10 p.m., inclusive, and good on boats all day. Return tickets good on any train leaving Excelsior or Wildhurst not later than 9.12 p.m." General Passenger Agent A. W. Warnock stated in 1907, "We issue a 16-page timetable for all our interurban lines, with steamboat schedules and information which strangers need to guide them. . . . In addition to having prominent stores in the Twin Cities hand out our printed matter, we have our publications on distribution in the folder racks of all the railroad ticket offices and hotels."

A waiting room and ticket office was provided for many years at 17 N. 6th St., between 1st Ave. N. & Hennepin in Minneapolis. On 28 May 1928 this was changed to the Grey-



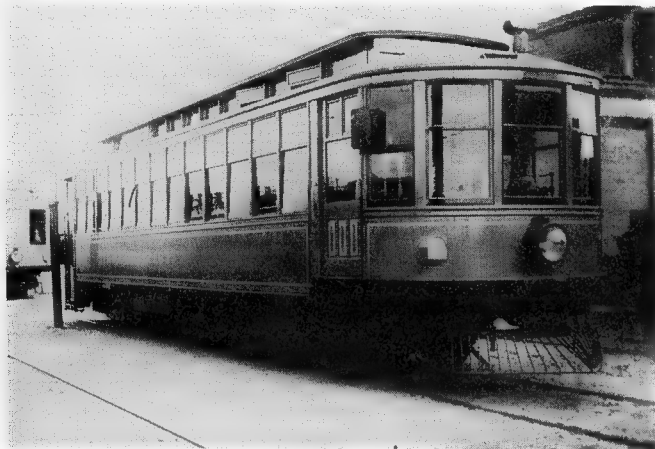
On the Deephaven line, 1915. (BN)



The trestle at Hopkins. (CS)



West of Hopkins, 1923. (CAL)



Suburban cars 1145-1163 were built by TCRT in 1906 for the 'Tonka lines. Here we see 1161 in 1911. These cars regularly made mile-a-minute speeds.



Six express boats were built by Snelling Shops in 1906 for Minnetonka service. Note resemblance of cabin to TCRT car design.

hound Bus Depot at the corner of 1st Ave. N. & 7th St. Inbound cars were rerouted via Hennepin to 11th St., 1st Ave. N., 6th St., to Hennepin. Schedules were arranged for a stop of only two minutes at the bus depot. There were no agency stations on the lines, but commutation and other special tickets were sold at one drug store in Hopkins, and another in Excelsior. Fare zones were: Blake--2, Hopkins Wye or Glen Lake--3, Clear Springs or Tonkawood--4, Excelsior or Deephaven--5, Tonka Bay--6.

On 20 September 1931 thru service to Deephaven was discontinued, and shuttle service instituted from Deephaven Jct. on weekdays, plus one trip each a.m. and p.m. rush hour by a Como-Hopkins car. All Sunday and Holiday service was given by Como-Hopkins cars running thru to Deephaven.

Constantly diminishing receipts finally caused the discontinuance of all rail service west of 9th Ave., Hopkins, on 11 August 1932. Five cars were transferred to service on the Inter-campus line until 1938, when the rest of 1145-63 were taken out of storage and all of them scrapped. The FW between Clear Springs and Excelsior, including the bridge at Division St., was used as part of a new highway route. The remainder is still visible, and may easily be followed on foot.

Of course, Lake Minnetonka service was much improved (?) by the substitution of buses. Under new management, the Deephaven line was operated with 27-passenger Fords on a route thru partially-new territory, and skirting the north side of both St Louis Pk and Hopkins, but eliminating all transfer privileges. Buses averaged five minutes more running time to Deephaven than did the cars. The Excelsior-Tonka Bay route was formed by extending the Glen Lake bus line, which already ran out West Lake St from Minneapolis and continued on Excelsior Blvd thru Hopkins. By September 9, 1949, the Tonka Bay schedule had shrunk to eight trips except Saturdays & Sundays, five trips Saturdays, and one (1) Sundays. The bus running time was as much as seventy-five minutes, as against fifty-five minutes for the cars, altho bus trips which did not go into Glen Lake Sanatorium took five to ten minutes less. Excelsior base service continued hourly, plus extra rush-hour trips and one limited trip. The thirty-cent fare to Clear Springs was extended to Excelsior in an effort to bolster the dwindling patronage.

STEAMBOAT OPERATION: The extension of the Minneapolis & St. Paul Suburban RR to Excelsior and Deephaven in 1905-06 revolutionized Lake Minnetonka steam navigation. All of the previously independently-operated boats were brought under TCRT management by its subsidiary the MINNETONKA & WHITE BEAR NAVIGATION COMPANY. With the opening of an amusement park on Morse Island, or Big Island as it was then known, three similar side-wheel ferry boats were built to run between that island and Excelsior. Six "Express" boats were constructed in Minneapolis for operation from Excelsior to all points on the upper and lower lake. These six identical craft, the WHITE BEAR, STILLWATER, HOPKINS, HARRIET, MINNEHAHA II, and COMO, were seventy feet long, with a beam of fifteen feet. They were equipped with upright boilers fired by soft coal. Night illumination was supplied by electric lights drawing current from a small steam generator. Old photos show these boats both with and without an awning covering the top deck. In the forward section of the lower deck were double-width transverse seats each side of an aisle, nearly the same as on the railway cars. Several smaller boats and the sternwheeler EXCELSIOR were included in the unified system. In spite of WHITE BEAR in its name, the M&WENCO never operated any boats on that lake.

The express boats were a popular innovation on Lake Minnetonka, as no attempt previously had been made by the predecessor companies to run their boats on regular schedules. M&WENCO service was provided on four routes, each with a base headway of two hours. The fare was ten cents between any two points on the same route, and no transfers were issued. There was a total of twenty-three public and private landings. These routes were operated thru 1923:

Excelsior-Deephaven-Wayzata, 7 miles O.W.
Excelsior-Minnetonka Beach, 3 miles "W.
Wildhurst-Spring Lake Park, 3 miles "
Wildhurst-Zumbra Heights-Mound, 7½ miles

During 1924-26 the service was consolidated into two routes, and several landings eliminated. The forty-five minute four-mile round trip on the Big Island ferry had been discontinued 28 August 1911 when the amusement park there was dismantled. A new park was located east of the docks in Excelsior, and remains in use today under a different management.

What could be nicer than to spend Sunday at the lake, taking a cool breezy ride on one of the express boats, or enjoying an all-day outing at the amusement park and picnic grounds? Evidently a major part of the population of the Twin Cities favored those thoughts, for a terrific volume of business was handled summertimes before World War I. The steamboats, which operated only from the middle of May to the end of September, were the principal means of transportation between various points on the lake in those days.

With the construction of additional improved roads in the early twenties, and the increased use of private autos and launches, steamboat patronage had fallen off to an alarming degree. Operations were opened in the summer of 1926, but so little business resulted that the service was discontinued after six weeks, and the boats sold or scrapped. One of the former express boats remained afloat till 1949, but as a diesel launch. This craft was used only for charter service by an independent owner. Electric Railway Journal for July 1926 reported that "Automobile competition has destined four of the fleet of the Lake Minnetonka passenger steamers of TCL to a 70-foot-deep watery grave. Two were sunk recently, and two more are to go, after twenty-one years of service."

After the decline of the resort hotel business, motor- and sail-boating, together with fishing, remained the chief attractions of the lake. A popular yacht club, still in existence, has its building on a small island near the Deephaven dock. A boat building yard is still in operation at Solberg's Point on Carson's Bay, between Deephaven and Excelsior. Chartered seaplane service was once offered out of Wayzata for anyone prosperous enough to be in a real hurry.

Form 240 2400 7-50 TCL

TRAIN ORDER BLANK

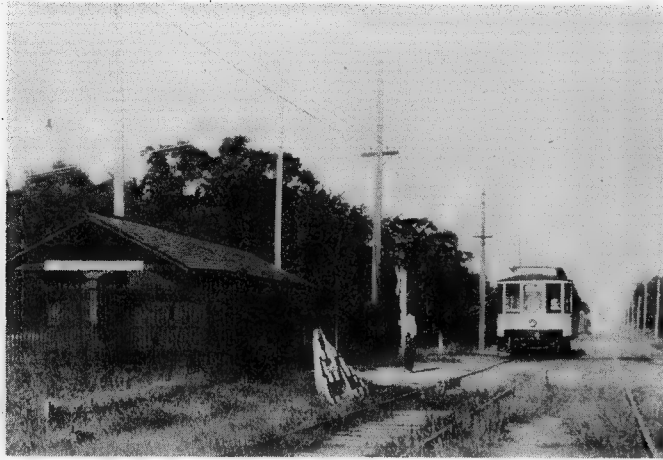
The Minneapolis & St. Paul Suburban R. R. Company

Train Order No. _____ 19 _____					
LINE	POS.	SEC.	DIR.	AT	TIME
MEET		at		in	SEC.
MEET		at		in	SEC.
MEET		at		in	SEC.
MEET		at		in	SEC.
MEET		at		in	SEC.

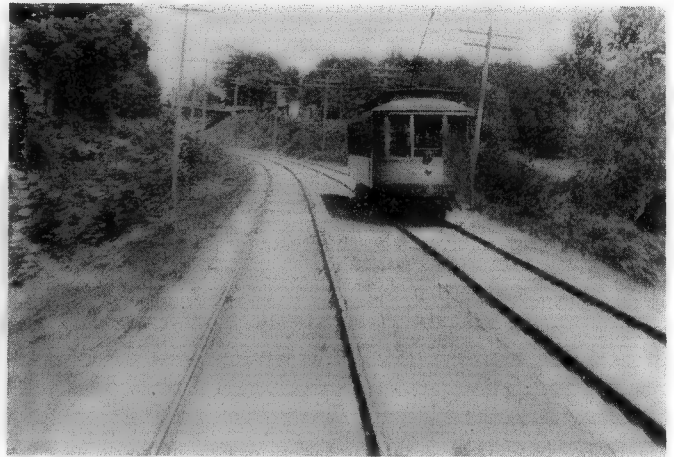
Report for Orders _____ at _____
Direction _____
REMARKS _____

OPERATOR	TRAIN	COMPLETE	DISPATCHER

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	STATION
1	2	3	4	5	6	7	8	9	10	11	12	EMERGENCY
13	14	15	16	17	18	19	20	21	22	23	24	City Limits
25	26	27	28	29	30	31						From Minnetonka to Hopkins car
LAKE MINNETONKA												
1 002090												
1	2	3	4	5	6	7	8	9	10	11	12	
13	14	15	15	15	15	15	15	15	15	15	15	
30	30	30	30	30	30	30	30	30	30	30	30	
45	45	45	45	45	45	45	45	45	45	45	45	
11th St.												
Lake St.												
City Limits												



Looking west from Blake on the Hopkins line in 1946.
The car is 1289, inbound. (FH)



A Lake Minnetonka car eastbound at Fair Oaks Bridge
in 1923 as seen from rear of another car. (CAL)

THE STREETCAR FLEET: (An editorial in the "Minneapolis Sunday Tribune," February 12, 1950:)

"There are many ways of getting from home to school but not many more exciting than that provided by the old streetcar boats that used to ply Lake Minnetonka. The transit company had smoother sailing in those days than now. Its fleet of six double-decked boats, painted a vivid yellow to match their land-going partners, was the slickest means of transportation on the lake. More than thirty years ago, these boats made regular connections with the streetcars at Deephaven and Excelsior. In the early fall before the lake season ended, many children used to catch a streetcar boat on the way to school in Minneapolis. This involved standing on a long, T-shaped streetcar dock and trying to keep your little friends from shoving you in the water before a streetcar boat came along. You knew the skipper of the boat well, of course, and if you were lucky, he might let you put a hand on the wheel to get the feel of steering.

"Next best to that was riding on the upper deck and leaning far over the rail to watch the white wake boiling behind.

"Sometimes, in a high wind, the boats pitched and tossed a bit too much for comfort, and it seemed good to transfer to the streetcar, which only rocked and swayed.

"The old streetcar boats were a neighborly institution. When they hit the dock at Breezy Point (now Maplewood) on their way to Deephaven in the early morning, one could be fairly certain to know everyone on board.

"Now the kids whiz back and forth to school in cars and busses. But they are a sorry lot of landlubbers compared to the school children who once rode the streetcar fleet at Minnetonka."

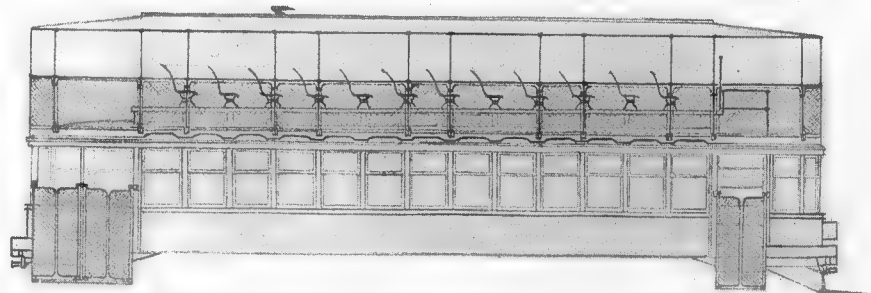
MILEAGE & TIME:	Miles	Minutes
Mpls., 6th St.	0.00	0
City Limits	5.45	24
Hopkins-9th Ave.	9.53	31
Deephaven Jct.	10.65	33
Mayview	11.83	35
Glen Lake	12.64	36
Clearspring	14.77	39
Vine Hill	15.89	41
Christmas Lake	17.26	43
Excelsior-Docks	17.91	45
" 1st St.	18.05	45½
" 3rd St.	18.24	46
" George	18.53	46½
Manitou	19.48	49
Crescent Beach	20.19	51
Wildhurst Dock	20.46	52
Tonka Bay	21.26	55

Below is a drawing by R. L. Olson of car 1092, used on Minnetonka about 1908. See "Double Deck Cars."

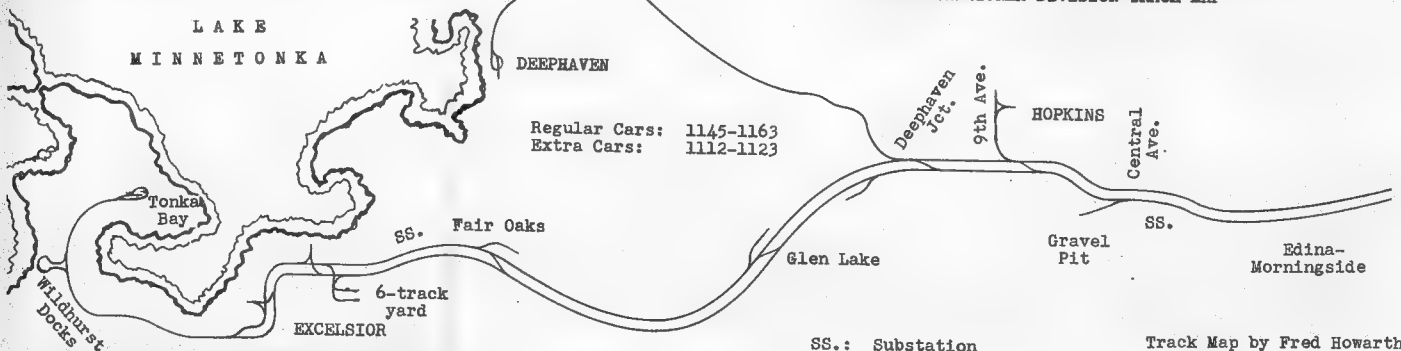
Line	From	To	Opened
'Tonka	Harriet loop	Excelsior	9-30-05
Deephaven	Deephaven Jct.	Deephaven	10-10-06
Hopkins	Main Line	9th-Excel.	6-16-06
Tonka Bay	Excelsior	Tonka Bay	5-19-08



1224 Outbound on Hopkins Trestle in 1946.
(KB)



TWIN CITY RAPID TRANSIT COMPANY
MINNEAPOLIS & ST. PAUL SUBURBAN RAILROAD
LAKE MINNETONKA DIVISION TRACK MAP



SS.: Substation

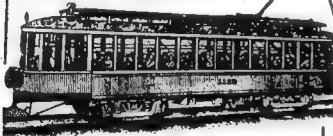
Track Map by Fred Howarth

NO. 30—IN EFFECT MAY 30, 1908.

TIME TABLES LAKE MINNETONKA FAST CARS AND BOATS

TWIN CITY LINES

THE CLEAN, FAST, SMOOTH, SMOKELESS, SILENT ELECTRIC ROUTE EVERYBODY LIKES TO TRAVEL



These Time Tables supersede all others previously issued and are subject to change and correction without notice. Cars and Boats are usually "On Time" and make connections according to tables given herein, and all means are employed to do so, but such connections are not guaranteed. The Company will not be responsible for consequences arising from delays or errors in these printed schedules.

WILLARD J. HILD, General Manager.

FAST ELECTRIC TRAIN SERVICE

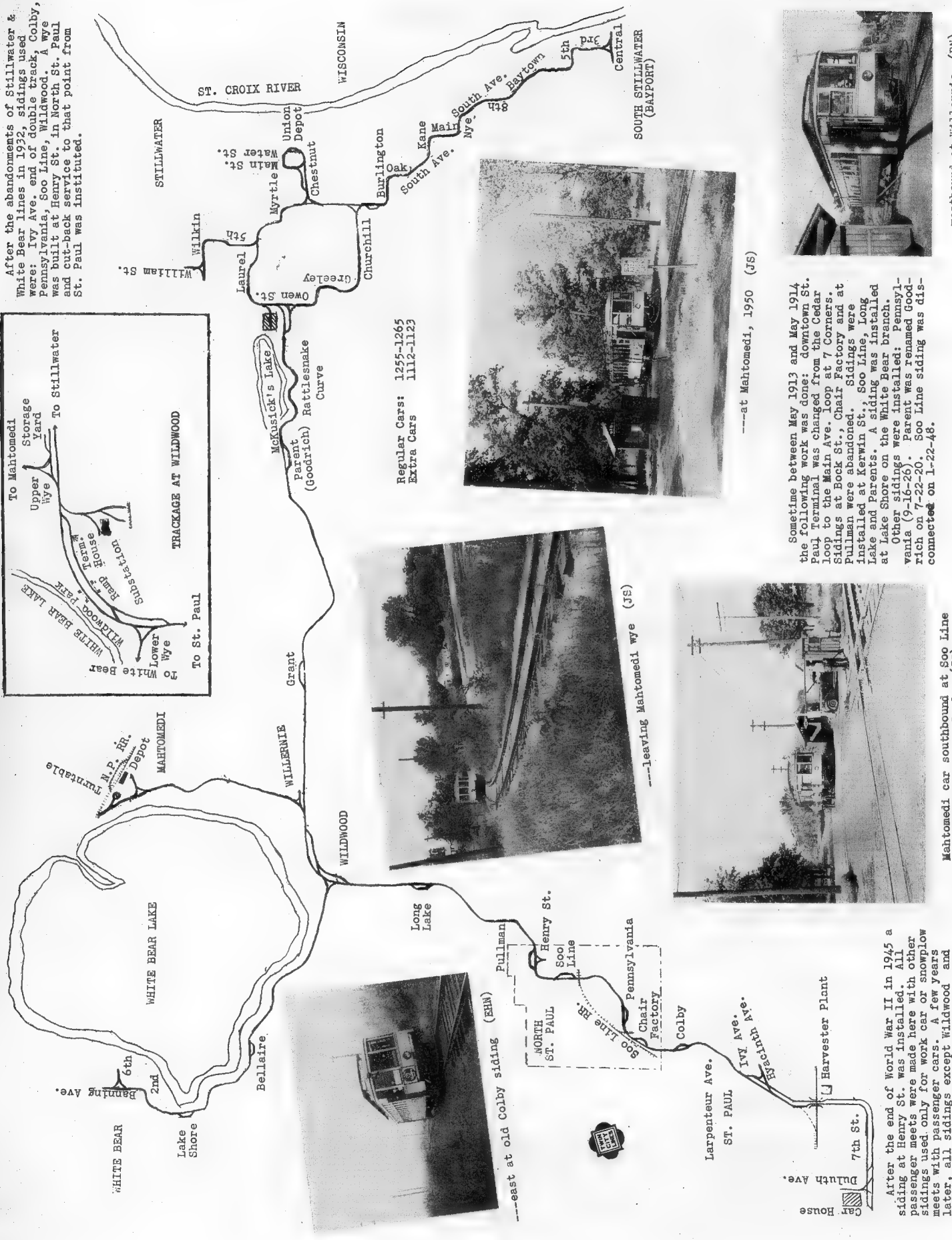
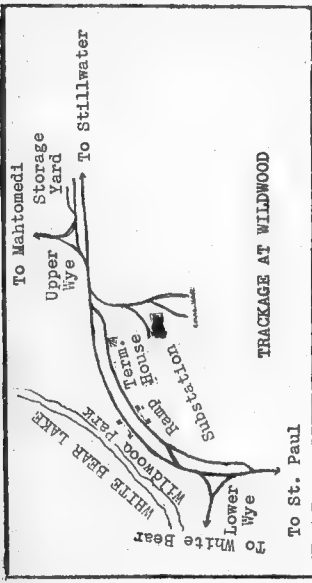
EXCELSIOR—WILDHURST—TONKA BAY

Minneapolis to Excelsior—18 miles. Minneapolis to Tonka Bay—21 miles.

WEEKDAYS

Leave Minn'polis	Arrive Excelsior (2nd St.)	Arrive Tonka Bay	Leave Tonka Bay	Leave Excelsior (2nd St.)	Arrive Minn'polis
4:50 A.M.	4:45 A.M.	6:50 A.M.	7:03 A.M.	7:18 A.M.	7:55 A.M.
L 6:03	6:00	7:50	8:03	L 7:43	8:25
L 6:53	6:50	8:40	8:53	L 8:33	9:15
L 7:43	7:40	9:30	9:43	L 9:23	10:05
L 8:33	8:30	10:20	10:33	L 10:13	10:55
L 9:23	9:20	11:10	11:23	L 11:03	11:45
L 10:13	10:10	12:00	12:13	L 11:53	12:35
L 11:03	11:00	12:50	13:03	L 12:43	13:25
L 12:30 P.M.	12:16 P.M.	1:35 P.M.	1:48 P.M.	L 13:33	14:15
L 1:58	1:44	2:25	2:38	L 14:23	15:05
L 2:48	2:34	3:15	3:28	L 15:13	15:55
L 3:38	3:24	4:05	4:18	L 16:03	16:45
L 4:28	4:14	4:55	5:08	L 16:53	17:35
L 5:18	5:04	5:45	5:58	L 17:43	18:25
L 6:08	5:54	6:35	6:48	L 18:33	19:15
L 6:58	6:44	7:25	7:38	L 19:23	20:05
L 7:48	7:34	8:15	8:28	L 20:13	20:55
L 8:38	8:24	9:05	9:18	L 21:03	21:45
L 9:28	9:14	9:55	10:08	L 21:53	22:35
L 10:18	10:04	10:45	10:58	L 22:43	23:25
L 11:08	10:54	11:35	11:48	L 23:33	24:15
L 11:58	11:44	12:25	12:38	L 24:23	25:05
L 12:48	12:34	1:15	1:28	L 25:13	25:55
L 13:38	13:24	2:05	2:18	L 26:03	26:45
L 14:28	14:14	2:55	3:08	L 26:53	27:35
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L 31:08	30:54	7:35	7:48	L 43:33	44:15
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L 149:28	149:54	5:55	6:08	L 1	

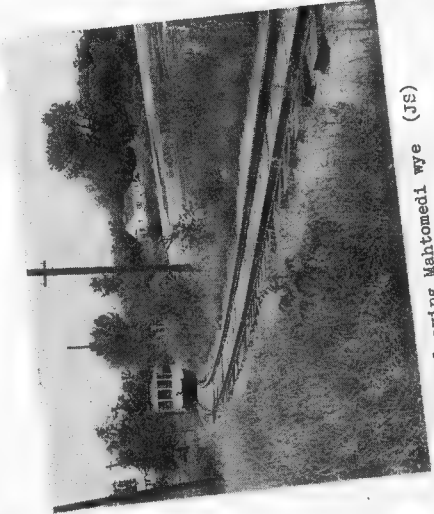
After the abandonments of Stillwater & White Bear lines in 1932, sidings used were: Ivy Ave. end of double track, Colby, Pennsylvania, Soo Line, Wildwood, A Wye was built at Henry St. in North St. Paul and cut-back service to that point from St. Paul was instituted.



Regular Cars: 1255-1265
Extra Cars: 1112-1123



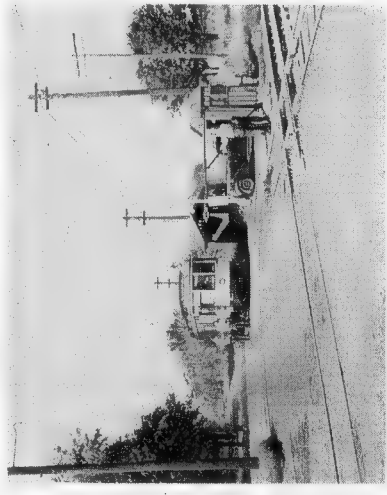
---east at old Colby siding (EHN)



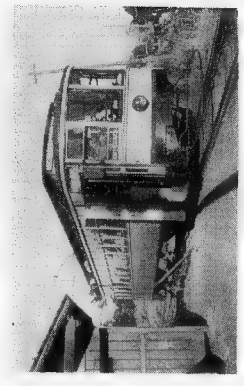
---leaving Mahtomedi wye (JS)



---at Mahtomedi, 1950 (JS)



Mahtomedi car southbound at Soo Line crossing, North St. Paul. (JS)



---westbound at Willernie (BN)

After the end of World War II in 1945 a siding at Henry St. was installed. All passenger meets were made here with other sidings used only for work car or snowplow meets with passenger cars. A few years later, all sidings except Wildwood and Henry St. were abandoned and torn up.

Sometime between May 1913 and May 1914 the following work was done: downtown St. Paul Terminal was changed from the Cedar Loop to the Main Ave. loop at 7 Corners. Sidings at Rock St., Chair Factory and at Pullman were abandoned. Sidings were installed at Kerwin St., Soo Line, Long Lake and Parents. A siding was installed at Lake Shore on the White Bear branch. Other sidings were installed: Pennsylvania (9-16-26). Parent was renamed Goodrich on 7-22-20. Soo Line siding was disconnected on 1-22-48.

THE STILLWATER DIVISION

LOCAL LINES: The first electric street railway company in the State of Minnesota was the Stillwater St. Ry., which began operation in June 1889. It was designed by Frank Sprague, and used five cars on two lines. In July 1891, new cars with 50-hp motors were purchased to improve service on the long steep grades. Power was obtained from a station on the St. Croix River. Further improvements under way in October 1891 were elimination of many sharp curves on the South Stillwater line, and the extension of the Main St. line to the state prison. Burton electric heaters were experimentally installed in car 7 with satisfactory results, using three amperes of current to heat the car to seventy degrees against an outside temperature of thirty-six degrees. By August 1893, the company was in its second receivership, and in May 1894 was sold to new owners. Little is known of the further history of the Stillwater lines until 21 March 1899, when TCRF was granted a franchise to operate electric cars on the streets of Stillwater.

INTERURBAN CONSTRUCTION: The NORTH ST. PAUL RAILROAD was incorporated 22 August 1889 to build and operate a single-track narrow-gauge steam railroad, from the cable power house at E. 7th St. & Duluth Ave. in St. Paul, to the village of North St. Paul. A steam motor was purchased from the Minneapolis Lyndale & Minnetonka Ry., and service began in April 1890. It was announced during May 1891 that the City of Stillwater had granted C.P. Gregory and associates of that city a franchise to construct an electric railway from Stillwater to St. Paul. However, it was April 1892 before a contract was let to the Northwest Thomson-Houston Co. to build a new electric line between North St. Paul and Mahtomedi, and electrify the steam road from St. Paul to North St. Paul as a standard-gauge line. Work was pushed rapidly by the new company, reorganized as the ST. PAUL & WHITE BEAR RAILROAD, and the first thru car ran on 1 July 1892. The line terminated in St. Paul at Newcombe & E. 7th Sts., one block east of the cable power house. An 86-by-122 foot brick building was erected as a combined car house, shops, and power house, at Margaret St. & 9th Ave. in North St. Paul. Carload freight interchange connections were at Hazel Park with the Chicago, St. Paul, Minneapolis & Omaha RR. (C&NW), at North St. Paul with the Wisconsin Central (Soo Line), and at Mahtomedi with the St. Paul & Duluth RR (Northern Pacific). Rolling stock consisted of eight double-truck deck roof open-platform electric cars built by Pullman. The steam loco was retained for freight service, and to haul several second-hand steam road coaches in handling weekend crowds. A round trip took eighty minutes, and the timetard had twenty-five trains each way for a thirty minute headway. An amusement park was located at Wildwood.

On March 21, 1899, the Minneapolis & St. Paul Suburban RR. (TCRF) purchased the St. Paul & White Bear RR. Work on the extension to Stillwater was begun May 10, 1899, by the Nelson & McAllister Construction Company of Minneapolis. Supplies were shipped to Mahtomedi via the Northern Pacific Ry., the cars then being hauled by the SP&NB steam engine to Wildwood and east on the extension. The tunnel under the Wisconsin Central tracks east of Wildwood was completed on July 1st, and on 23 August regular service was inaugurated between 7th & Wabasha in St. Paul and Union Depot in Stillwater. A branch was built during 1904 from Wildwood, up the west shore of White Bear Lake, four miles to the village of White Bear. The Wilkin & 3rd St. line in Stillwater was extended to the village of South Stillwater effective 5 May 1905. South Stillwater was renamed Bayport in 1911.

OPERATION: Since the line was all single track beyond Hazel Park, operation closely followed steam road practice. Train movements were controlled by a dispatcher at Owen St., in Stillwater. Phones were provided in wooden booths at each siding, plus a semaphore which could be remotely operated by the dispatcher to stop cars to give the crews orders. Standard



Lightweight #4 eastbound at 3rd & Chestnut, Stillwater.

forms were used for copying the orders, and a rulebook and timetable were issued to each trainman. The Stillwater local lines were included in these. This division also had its own superintendent, line car, work car, and snowplow.

Service was operated thruout the year on a thirty-minute headway. Thru cars ran from St. Paul to White Bear, and St. Paul to Mahtomedi, during the morning and evening rush hours, and all day Sunday. A shuttle car between White Bear and Mahtomedi connected with the Stillwater trains at Wildwood at other hours. During the summer season, local cars were operated to Wildwood between most regular cars, thus giving fifteen-minute headway to that point. Running time was sixty-five minutes to Stillwater, fifty-eight to White Bear, forty-nine to Mahtomedi, and twenty-two for the shuttle between White Bear & Mahtomedi. The St. Paul terminal during the first years of operation was the Seven Corners Loop at Main & West 7th Sts. In 1915, the route was changed to loop via 7th, Cedar, 9th, Wabasha, returning out 7th. After 1919, it was 7th, Broadway, 5th, wye at Sibley, then back one block to the Union Depot at 4th.

In Stillwater the interurbans operated north around the loop from Owen St. to 5th & Main, thence to the Stillwater Union Depot, returning via the same route. Local service was given on this route. At Union Depot loop interurbans took the siding to enable city cars to run around them. Local city cars ran on two other routes in Stillwater: the Owen St. line ran from the wye at Owen St. Siding south to Olive, Greeley, Churchill, 3rd, Chestnut, to Union Depot loop, returning via the same route; one car gave thirty minute headway. The Wilkin St.-South Stillwater line ran from William & Wilkin Sts. in Stillwater via the Union Depot loop to 3rd St. & Central Ave. in South Stillwater; two cars gave a thirty minute headway, making regular meets at a siding just south of 3rd & Church-hill.

The amusement park at Wildwood was owned and operated by TCRF, and contributed heavily to weekend patronage on the trolley line. situated on the south shore of White Bear Lake, the park was long a favorite location

to spend a summer Sunday. Standard weekend headway was fifteen minutes, but extra cars were added as needed to take care of any unusual increase in business. Sunday was a dispatcher's headache because of the single track and each run usually being in four sections. A wye and storage track were located at Willernie, the Mahtomedi branch junction, and two additional storage tracks were available alongside the substation, south of the highway. An interesting operation took place at Wildwood when thru cars ran to White Bear Village. The pedestrian entrance and exit for the park was by means of a ramp under the tracks. A White Bear car would pull up to the unloading platform over the ramp to discharge and receive passengers. The car then backed up, took the crossover to the westbound track, and continued backing down the main line until it cleared the switch of the south leg of the White Bear wye, after which it ran forward up the branch. Returning to St. Paul, the car headed around the south leg of the wye, then backed up the westbound main track to the ramp to handle passengers. After all waiting passengers were loaded, the car then headed west on the main line to St. Paul. The Mahtomedi-White Bear shuttle car presented no problems. Coming in from White Bear, it headed around the north leg of the wye, then thru the crossover to the eastbound main, on which it stopped at the ramp to load and unload passengers. Leaving Wildwood for Mahtomedi the shuttle car continued east onto single track and left around the west leg of the Willernie wye, the same as a thru car from St. Paul. Coming thru Wildwood from Mahtomedi to White Bear, the shuttle stayed on the westbound main, and headed around the north leg of the White Bear wye junction.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	STATION				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	EMERGENCY
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		CONTINUATION
This calendar is sold without guarantee by the State of Alaska												Wildwood		P.M.		
WHITE BEAR-MAHTOMEDI												Duluth Ave.				
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30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	AK	

The increased use of private automobiles, coupled with the depression, had the same effect on the Stillwater lines as it did on the Lake Minnetonka lines and many others throughout the country. By the summer of 1932, revenues had declined to such a marked degree that on August 11th of that year service was discontinued between Wildwood and Stillwater. Further retrenchment occurred on September 10th, 1932, when the Wildwood-White Bear branch and the Stillwater local lines were discontinued. The line to Mahtomedi remained in operation, the first four weeks in conjunction with the Grand Ave. local line in St. Paul, afterwards with the Randolph line.

The amusement park at Wildwood was closed and the Wildwood platform stop discontinued effective October 12, 1938. A wye had been installed at Henry St. in 1934 and turnback service was given to this point; in 1945 a siding was added. All of the sidings on the Mahtomedi line continued in use after 1932, until the Long Lake siding was removed when the Henry St. wye was installed (1934). For other changes, see the track map notes.

After 1945, Mahtomedi service was generally hourly, with many extra weekday runs to North St. Paul. In the afternoon rush hour, a four-section trip left 7th & Wabasha at 5:10; one section ran to Mahtomedi, one went to Wildwood, and two to North St. Paul with one of the latter running express as far as Carpenter Ave. at the St. Paul city limits. This operation was soon reduced to but three sections, one to each of the first three points. All meets were made at the Henry St. siding.

Service to Mahtomedi continued with local cars until final abandonment on November 3rd, 1951.

STILLWATER MISCELLANY: Stillwater cars originally ran express in St. Paul to 7th & Duluth, local beyond. When the line was double-tracked to Ivy Ave. in 1922, express service was extended to that point.

The first automatic signals on the line were those protecting the gauntlet track over the C&P&M RR. at Hazel Park, and also on the reverse curve at McKusick's Lake, near Stillwater.

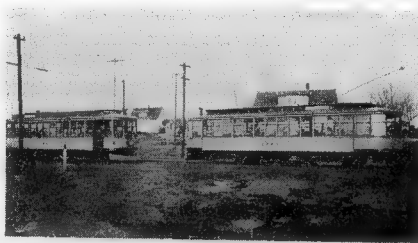
Regular cars carried pouch mail to North St. Paul (Wildwood, Mahtomedi and Stillwater) until June 1, 1938.

Prisoners were taken to the State Prison at Stillwater handcuffed to their seats on special cars.

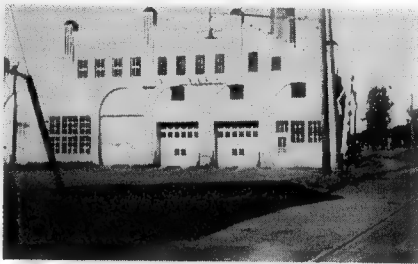
Every day (with Sunday being the big day) newspapers were carried to all stops along the line. The Duluth Ave. shop men got the car ready and rode to 7th & Wabasha via the Cedar St. loop to help load the papers. The bundles occupied nearly the entire front half of the car as well as the motorman's cab. The shopmen were let off at Duluth Ave. and the car continued on as a regular Stillwater train. First it went to White Bear, then over to Mahtomedi, back to Wildwood and finally out to Stillwater and South Stillwater. Bundles of papers were thrown off at required points by motorman and/or conductor.

Stillwater suburban cars had round overhead fare registers (minus bell) on the left side of the front bulkhead, with cords running along the left side of the car. A rectangular box on the right side of the bulkhead held a trip sheet, connected by two rods to a fare-indicating dial on the rear bulkhead. The conductor would set the dial and then stamp the trip sheet by pulling one of the cords. At each fare zone limit the conductor was required to set the register back to zero and ring up the number of fares on board at that time. This was done regardless of how crowded the car was, and made the job of a conductor a very busy one indeed on the weekend runs to Wildwood.

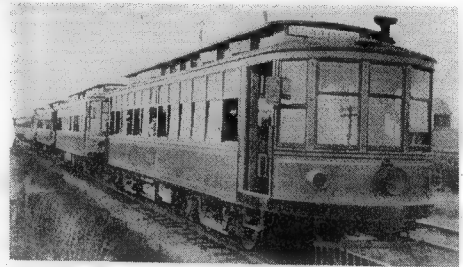
Each motorman received a card for his own particular run on which were listed all time points and any scheduled meets. The dispatcher was notified by each car when entering or leaving double track at Ivy Ave., at any meeting points, and before leaving the end of the line. Extra and work cars ran by train order authorization. Tin markers in brackets on the front of each car indicated a following section; kerosene lamps were specified for this purpose at night, but saw little use as sections were rarely operated at night.



1261 & 1263 near Hazel Park, 1921.



Old White Bear RR. carhouse at North St. Paul, 1951. (CAL)



1112 and lineup of suburban cars, 1914.



1116 & 1117 meet at Owen Siding, 1910.

STILLWATER DIVISION

No. 112—IN EFFECT JANUARY 13, 1945

SUNDAY AND HOLIDAYS

EASTBOUND				WESTBOUND			
Leave	Arrive	Leave	Arrive	Leave	Arrive	Leave	Arrive
7th and Wabasha	No. St. Paul	Henry St. Willerville	Mahtomedi	Mahtomedi	Willerville	No. St. Paul	7th and Wabasha
7:00	7:36	7:42	7:48	7:59	8:05	8:12	8:50
8:00	8:36	8:42	8:48	8:59	9:05	9:12	9:50
9:00	9:36	9:42	9:48	9:59	10:05	10:12	10:50
10:00	10:36	10:42	10:48	10:59	11:05	11:12	11:50
11:00	11:36	11:42	11:48	11:59	12:05	12:12	12:50
12:00	12:36	12:42	12:48	12:59	1:05	1:12	1:50
1:00	1:36	1:42	1:48	1:59	2:05	2:12	2:50
2:00	2:36	2:42	2:48	2:59	3:05	3:12	3:50
3:00	3:36	3:42	3:48	3:59	4:05	4:12	4:50
4:00	4:36	4:42	4:48	4:59	5:05	5:12	5:50
5:00	5:36	5:42	5:48	5:59	6:05	6:12	6:50
6:00	6:36	6:42	6:48	6:59	7:05	7:12	7:50
7:00	7:36	7:42	7:48	7:59	8:05	8:12	8:50
8:00	8:36	8:42	8:48	8:59	9:05	9:12	9:50
9:00	9:36	9:42	9:48	9:59	10:05	10:12	10:50
10:00	10:36	10:42	10:48	11:11	11:17	11:24	12:00
11:15	11:51	12:00	12:06	12:07	12:18	12:20	12:56
12:10	12:46	12:53	12:59	1:04	1:10	1:17	1:56
1:00	1:40	1:47	1:53	1:54	2:00	2:07	2:56

Transfer passengers to locals at Duluth Ave.

No.	Line	Miles	City Fare
1	7th & Wabasha	1.97	10 Cents
2	City Limits	1.74	8 Cents
3	Division St.	1.74	8 Cents
4	Willerville	11.42	36 plus City Fare
5	Mahtomedi	12.24	38 " " "

FOR INFORMATION CALL CEDAR 7381

SCHEDULE SUBJECT TO CHANGE WITHOUT NOTICE



Destination signs used in 1910 (in sequence):

ST. PAUL & STILLWATER

WILDWOOD

HAZEL PARK

MAHTOMEDI

WHITE BEAR

Local cars had the following signs:

WILDWOOD

HAZEL PARK

Later suburban signs:

ST. PAUL-STILLWATER

ST. PAUL-WILDWOOD

MAHTOMEDI

WHITE BEAR

MAHTOMEDI-WHITE BEAR

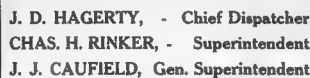
STILLWATER MISCELLANY: Double tracking of this line out from St. Paul proceeded as follows: between May and October of 1917 the line was two-tracked on E. 7th St. from Duluth Ave. to VanDyke Ave. (about one block east of White Bear Ave. In July, 1920, double track was extended from VanDyke Ave. to Harvester Ave. (near the former Ames Ave. wye). In 1922 the second track was extended from Harvester Ave. to Maryland siding except for the Omaha bridge where gauntlet track was installed.

In August, 1924, a new crossover was built 75 feet east of Duluth Ave. on E. 7th St. to allow Stillwater cars to pass Hazel Park cars. Eastbound Hazel Park cars, upon hearing whistle signal from a Stillwater car wishing to pass, would take the crossover, going to the westbound main which was part of the carhouse trackage. The eastbound Stillwater car then could pass the Hazel Park car while the latter ran against the current of traffic on the westbound main to the newly-built crossover from the westbound to eastbound main. Westbound cars were cautioned to keep a

vigilant outlook for eastbound cars on the westbound track at that point and give eastbound cars right of way until they cleared the westbound track.

Until the summer of 1913 the following sidings were used: Duluth Ave. end of double track; Bock St.; Maryland; Colby; Chair Factory; Pullman; Wildwood; Grant; Owen St. A wye was located at Ames Ave. on the east side of the main line and was called Hazel Park. It was used for cars in the rush hour providing service for the Harvester Plant. This wye was abandoned between May 1908 and May 1913. A wye and siding was located at Autumn Ave. and was named Maryland.





Motor running forward b
Night displaying WHITE LIGHT
signals indicating an Extra
Train not carded. See rule

1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS	1st CLASS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS	FARE	PASS
1.26	12.66	12.96	11.56	11.26	10.66	10.26	9.56	9.26	8.56	8.26	7.57	7.27	6.57	6.27	5.57	5.27	4.57	4.27	3.57	3.27	2.57	2.27	1.57	1.27	1.07	0.77	0.47	
1.93	12.83	12.83	11.53	11.23	10.53	10.23	9.53	9.23	8.53	8.23	7.54	7.24	6.54	6.24	5.54	5.24	4.54	4.24	3.54	3.24	2.54	2.24	1.54	1.24	1.04	0.74	0.44	
1.16	12.46	12.16	11.46	11.16	10.46	10.16	9.46	9.16	8.46	8.16	7.46	7.16	6.46	6.16	5.46	5.16	4.46	4.16	3.46	3.16	2.46	2.16	1.46	1.16	0.96	0.66	0.36	
1.04	12.34	12.04	11.34	11.04	10.34	10.04	9.34	9.04	8.34	8.04	7.37	7.07	6.37	6.07	5.37	5.07	4.37	4.07	3.37	3.07	2.37	2.07	1.37	1.07	0.87	0.57	0.27	
1.25	12.25	11.55	11.25	10.55	9.99	9.59	8.89	8.59	7.89	7.59	6.89	6.59	5.89	5.59	4.89	4.59	3.89	3.59	2.89	2.59	1.89	1.59	0.89	0.59	0.29	0.09	0.09	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.24	12.24	11.54	11.24	10.54	9.94	9.54	8.84	8.54	7.84	7.54	6.84	6.54	5.84	5.54	4.84	4.54	3.84	3.54	2.84	2.54	1.84	1.54	0.84	0.54	0.24	0.04	0.04	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	10.57	9.97	9.57	8.87	8.57	7.87	7.57	6.87	6.57	5.87	5.57	4.87	4.57	3.87	3.57	2.87	2.57	1.87	1.57	0.87	0.57	0.27	0.07	0.07	
1.27	12.27	11.57	11.27	1																								

THE INTERCAMPUS LINE

The University of Minnesota's main campus is located in Minneapolis, but the U's Agricultural School is located in St. Paul. The Intercampus Line was constructed in 1913-14 to provide quick, efficient transportation between the two, thus obviating the necessity of duplicating courses and facilities.

The resultant electric railway operation resulted in one of America's most colorful lines. 2400 students daily ride its cars, which operate on a fifteen-minute headway in school hours; on Saturday the headway is 15 minutes in the morning, 30 minutes in the afternoon—while the line shuts down completely nights and Sundays.

The Intercampus Line is economical, too: 4¢ per ride by the dollar commutation ticket, 7¢ by token, or 10¢ cash. Should a student find himself unable to pay even these modest fares, the conductor obligingly hands him an "IOU" slip to fill out; the slip eventually finds its way to the University bursar's office and 10¢ is taken from the student's account to satisfy the conductor's lien. A student carrying quite heavy "Ag" units is even allowed to ride free of charge.

The Intercampus Line is a curious hybrid: half TCRT, half state-owned. TCRT's Como-Harriet line is used from the Main Campus at 4th St. SE & 15th Ave. SE via 15th Ave. and Como Ave. to the Campus Junction at Eustis. Here the Intercampus cars switch onto State-owned railway, single track on private way. Through oak woods and pleasant countryside the college special wends its way, finally reaching its destination—the loop at the Farm School, just 2½ miles from its starting point.

The cars required for this service are rented from TCRT by the University at a rate of (1943) \$2.50 per day per car, plus \$3.70 per hour for labor and power. In addition, TCRT performs all maintenance of roadway for which it is reimbursed. Cars assigned to this service are kept in their own pool; in 1935, after abandonment of the Lake Minnetonka lines, high-speed suburban cars 1145-1149 were used; these (except 1145) were rebuilt in 1938 with front-exit doors, slower motors and K-type controllers. 1146-1149 were scrapped in 1941, and gate cars 1345-1349 succeeded to the Intercampus Line. In recent years 1266-1271 have been used on the line and are now (mid-1953) the only gate cars still in passenger service, being used only on this line.

However, the University does own one piece of rolling stock: the switching car. This car was built by TCRT for the University on November 15, 1914. It is half-closed and half-open, and occasionally hauls a passenger or two as well as freight cars and 1-c-1 freight. #1 isn't much to look at, but does its job well—the job consisting in the main of shifting coal, fertilizer, machinery and livestock between the Soo Line interchange and the Farm School. Occasionally #1 gets outside the Agricultural College bounds when it is called upon to haul supplies from the University's Main Campus storehouse; this is the only time it is seen on the opposite end of the line.

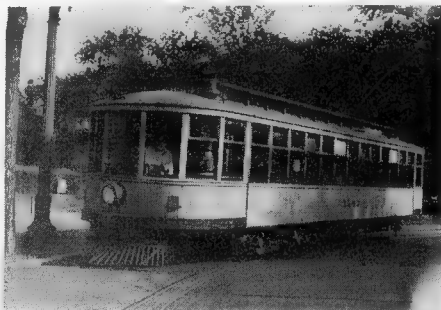
The University's engineering students surveyed the route of the line in 1913 and contractors finished the construction and grading work by the end of that year. Tracks were laid by TCRT and regular service was begun on Wednesday, November 4, 1914.

Although primarily for students, anyone can ride the Intercampus Line by paying a separate cash or token fare; transfers are neither issued nor received by the line.

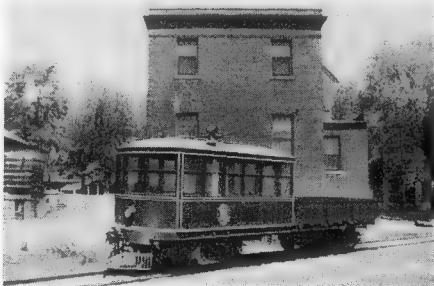
The days of the Intercampus trolley line are indeed numbered and soon the buses will take over its responsibilities. But there are some who venture to predict that the record set by the yellow cars in moving huge crowds of students on rigid schedules will be recalled with envy by students and university officials alike in future years.



Here we see the Intercampus car on the loop at the Main Campus end of the line in Minneapolis; the date: September, 1950. (JS)



Suburban car 1147 is seen above on the loop at the Main Campus, Minneapolis, in July of 1937. The car is as used on the Stillwater lines; projections on front formerly displayed green lights as sections. (HR)



The University's switcher:

Weight: 46,700 lbs.
Motors: GE 57 (4), 50 HP
Ratio: 16:69
Controller: K-37
Trucks: Twin City #4
Underframe: Steel
Length: 37'0"
Width: 9'0½"
Couplers: AAR
Air: GE CP-25
Builder: TCRT, 1914

University of Minnesota
Business Adm. Form 332
3-49-316

INTER-CAMPUS CAR

Date _____

Inasmuch as I do not have cash, token or ticket with me for my transportation on the Inter-Campus Car I request that 10 cents be deducted from my general deposit.

Signed _____ P. O. Box _____

College _____ Year _____



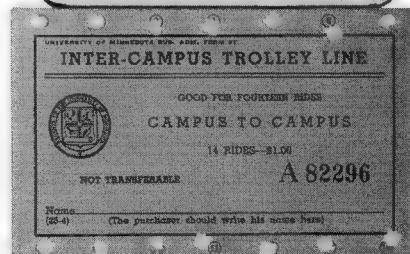
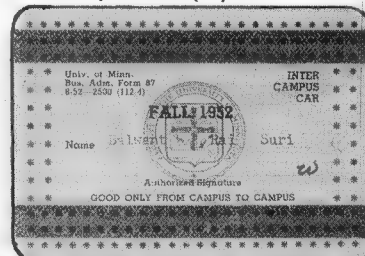
1270 is shown here at the opposite end of the Intercampus line: on the loop at the Farm School, Jan. 4, 1952. (RDG)



Intercampus car near Agricultural Campus in St. Paul, September, 1950. (JS)



Intercampus car leaving private way at Eustis St. for Como Avenue (foreground) in September, 1950. (JS)



Univ. of Minn.
Bus. Adm. Form 34

26910

UNIVERSITY TROLLEY LINE
SPECIAL SALE TICKET
GOOD FOR ONE RIDE
UNIVERSITY OF MINNESOTA FARM

Valid if Punched

How better can we capture the spirit of TCRT at its best than by quoting from a 1910 tourist guide published by the company:

"Nature has been generous with her gifts to these two cities. Minneapolis, 'The Flour City,' has a cluster of glistening lakes within its limits. St. Paul, 'The City on Seven Hills,' is enthroned on the high rocky cliffs of the deep-gorged Mississippi, which binds the two with its ever-flowing waters. And in and around them, there is a great land of Out-of-Doors---of fertile plains, busy villages, rugged ridges, cool forests, sparkling streams and falls, shimmering lakes, pretty country homes, broad farms and spots where Nature is seen in her virginal wildness, all forming scenery of unsurpassed beauty.

"All Twin City Trolley Trips are over the lines of the Twin City Rapid Transit Company, whose well-equipped lines reach every resort and point of interest in and around the Twin Cities, as well as their desirable residence sections. The company operates over 300 miles of standard-gauge track in Minneapolis, St. Paul and Stillwater, serving a populous and well-settled area of over 600 square miles, and enjoys the well-earned reputation of being one of the most progressive electric transportation companies in the United States, for its equipment and service are the best that money, skill and consideration for patrons can provide. It furnishes rapid transit between the furthest sections of the cities, and an unusual system of long rides for a 5-cent fare is effectually carried out.

"Every known device for the comfort and the safety of passengers is employed to make its service pre-eminent. Its tracks are unusually smooth and heavy. The large, 45-foot cars, built by the company in its own shops, are of the most modern and expensive construction and are the wonder of strangers. They are roomy, easy-riding, comfortable, and handsomely furnished. They are mounted on heavy, double trucks and equipped with powerful motors, air brakes, whistles, and electric signal bells. Easy, spring-cane seats accommodate 52 persons. The windows, with their peculiar disappearing sash, are unusually large and deep, insuring the freest circulation of air, and admitting the cooling breezes of summer delightfully. It is a real treat to make a trip in one of these big, 'mooch-bolling, yellow cars.

"The most delightful trolley trip you can enjoy in the Twin Cities---or, for that matter, anywhere---is the one to Excelsior on Lake Minnetonka, and if you have only a few hours to spare, avail yourself of this trip, for it includes a wonderful group of the Twin Cities' most beautiful resorts. Fare from any point in Minneapolis, each way, 25 cents; time, 45 minutes; distance, 18 miles.

"After leaving the city you'll experience something unusual in the way of an electric car ride of 14 miles to the attractive lake town of Excelsior, for there is no better-built or equipped line anywhere than this. Double tracks of 80-pound steel rails are laid on a perfectly graded and ballasted private right of way, level and straight, except here and there where some long, easy curve, planned with the most scientific skill, only serves to turn the scenic page and enhance the pleasure of the trip. Over this smooth, steel roadway the 300-horsepower car speeds along with ease at a mile-a-minute clip. Now the western city limits of Minneapolis are passed and the real country is on all sides. Straight as the birds fly the car speeds to the thriving town of Hopkins.

"There's a network of railroad tracks at Hopkins, but there's no danger or delay, as the car crosses them all on a high steel viaduct, and, finding its way to earth again to the Hopkins station, starts on the very last stretch of the joyous journey. The hills now rise on all sides and the meadows and pastures are narrower and deeper sunk, making a rural landscape to remember. Over Purgatory Creek and through grove-crowned bits of hills the car whizzes along. Before we know it, the car has ascended a steel viaduct, spanning a railroad, and Lake Minnetonka---'The Big, Blue, Beautiful Water'---flashes and gleams before the eyes. The car slides down the incline and stops at the Excelsior Terminal Docks, and the electric ride is over.

"You have reached Excelsior and the lake by the easiest way, the most comfortable way, the most interesting way, combined with the perfection of electric railway construction. You have experienced no heat, no cinders, no

soot, no smoke. You are prepared to enjoy the good things the lake offers you.

THE FAST STEAMERS: "The busy Terminal Docks are the landing place of the company's fine fleet of 12 new steamers, which, like all other 'Twin City' equipment, represent the best and latest ideas for comfort, safety, speed, and beauty. They are fine types of marine architecture, and they fairly invite you to take passage in them. You should accept their invitation.

"The threedouble-end, double-deck paddle ferries, 'Minneapolis,' 'St. Paul' and 'Minnetonka' perform a shuttle service between the Terminal Docks and Big Island Park, the company's beautiful new pleasure resort in the big part of the 'Lower' lake, reached in 8 minutes. No extra boat fare on electric car tickets from Twin Cities. Each ferry is 108 feet long, 35 feet wide, and can carry one thousand passengers.

"At Big Island Park you can enjoy music by the best bands, revel in the delights of a picnic party, enjoy many amusement features, or simply idle away some hours with the rippling surface of the blue lake all about you. By day, it is a picture; by night, when an electric wand has touched it, it is Fairyland. It is the ideal resort of an ideal lake. The ferry trip across the lake is exhilarating, and at night when the big steamers, ablaze with electric lights, ply back and forth, they make pretty pictures on the dark waters.

"The six fast propellers, 'Como,' 'Harriet,' 'Hopkins,' 'Minnehaha,' 'Stillwater,' and 'White Bear' offer a pleasant way to trail the lake's shores and see its more secluded charms. These 'Express' steamers are each 70 feet long, 14 feet wide, and comfortably carry 125 persons. They furnish communication between Excelsior and all the principal landings on the 'Upper' as well as the 'Lower' lake at frequent intervals. Fare from Excelsior to any points, each way, 10 cents.

"The three fast Excursion propellers, 'Puritan' (capacity 300), 'Plymouth' (capacity 200), 'Mayflower' (capacity 150), and dancing barge 'Priscilla' (capacity 300) make daily excursion trips around the lake and are also open to charter at very reasonable rates.

"Lake Minnetonka is 20 miles long and 4 miles wide, with a charmingly irregular shore line of over 300 miles. Its channels, bays and islands are continually revealing new vistas of dancing waters, and its shores are dotted with handsome summer homes, hotels and club houses. The lake is alive with sailboats, launches and steamers, all adding life and color to the beautiful scene. Minnetonka is not only Minnesota's most magnificent lake, it is one of America's. Its splendid proportions, its picturesquely broken shores, make this glorious sheet of water worthy of superlative praise. Travel the world over, you'll never see any as enchanting.

THE GREAT WHITE WAY: "If traveling to the lake by day is delightful, then traveling by night is novel and thrilling. For when the summer sun has dropped behind the hills, the entire line bursts into one long, blazing lane of light. From the span wires great electric arcs throw their brilliantly piercing rays up and down the shining tracks so that the cars whisk along a splendid path of white. The woods are darker than ever by contrast, and the sharp, cool breath of the meadows, and the vague spice of the foliage, and the grateful fragrance of wild flowers come drifting to your senses deliciously. Travel this route by day you should; travel by even in you must, for the 'Great White Way' trip is something you cannot enjoy on any other electric road in all the world. It is distinctly a 'Twin City' conception.

THE DEEPAVEN LINE: "There is a second line from Minneapolis to Lake Minnetonka---'The Cottage Line to Deephaven.' It follows the Excelsior line to Deephaven Junction where it branches off to the right, curving in and out among the Minnetonka hills through the easy, comfortable cottage groups of Groveland, Breezy Point, and Northome, finally ending at Deephaven, on Bay St. Louis directly in front of Hotel St. Louis and in

sight of the Yacht Club House on a little island in the bay. It is a most picturesque route to one of the lake's loveliest cottage sections. Rates, time and distance same as to Excelsior. An Express steamer connects with cars at Deephaven for Excelsior and intermediate points.

WILDWOOD, WHITE BEAR, STILLWATER: "Take any car for

Wildwood at Wabasha & 7th Sts., St. Paul. Fare to Wildwood, each way, 15 cents; time, 40 minutes; distance, 12 miles. Route is through rural scenes whose beauty is the constant wonder of the thousands who travel this highway. Past North St. Paul and Silver Lake, with pretty farms and ever-changing verdant pictures on all sides, the line sweeps into Wildwood, 'The Beautiful,' where one may find rest, comfort, coolness, and kindred delights of the good old summertime.

"Wildwood is one of the loveliest spots in the Northwest, and combines all the features of a park, lake, and summer resort, offering everything in the way of entertainment. As a place of pleasant recreation, Wildwood is unexcelled.

"Take a car at Wildwood for the town of White Bear and you will get a good idea of White Bear Lake, which has 40 miles of shore line dotted with cottages and villas. The route is through the woods not far from the lake's edge, through Birchwood and Lake Shore into White Bear. Fare each way, 10 cents; time, 13 minutes; distance, 5 miles.

"On return to Wildwood, take a car for Stillwater, 'The Queen City of the St. Croix.' Fare, each way, 15 cents; time, 25 minutes; distance, 8 miles. The trip is a continuation of the romantically beautiful landscape already enjoyed, with sylvan lakes and verdure-clad hills, and long sweeps of undulating valleys. Entering the city, the line winds in and out among the pleasant, shady streets, finally looping at the Union Station.

"South Stillwater, with 1500 population, can also be reached by electric cars from Stillwater. Fare, each way, 10 cents; time, 20 minutes; distance, 5 miles. Stillwater is 20 miles from St. Paul. Fare, each way, 30 cents; time, one hour.

INDIAN MOUNDS: Take a car for Indian Mounds Park at Wabasha and 7th Sts. in St. Paul. Occupying 135 acres on the margin and slopes of the lofty bluff at the apex of the elbow of the Mississippi River, Indian Mounds command far-reaching prospects of the hill-bound valleys of the Mississippi and the Minnesota Rivers. The edge of the bluff is crowned with five superb cone-shaped Indian mounds. Indians used to visit the mounds every spring, conveying there their dead chieftains and interring them in the mounds and at the same time holding their annual grand councils.

THE 'SIGHTSEERS': "Visitors who have not the time to enjoy the individual trips outlined in this folder are offered the 'Sightseers,' which afford pleasant services to enjoy Minneapolis and St. Paul in the least possible time. All 'Sightseers' follow a general belt route between St. Paul and Minneapolis, which includes the picturesque Como-Harriet interurban going and the new Selby-Lake returning---two pleasurable lines passing the most interesting buildings parks and resorts in both cities.

"Twin City Sightseer" includes the belt route and Indian Mounds. Time, three hours; distance, 35 miles; fare, 50 cents.

"Wildwood Sightseer" includes belt route, Minnehaha Falls and Wildwood on White Bear Lake. Time, 5 hours; distance, 58 miles; fare, 75 cents.

"Minnetonka Sightseer" includes belt route, and a trip to Minnetonka; also an express steamer tour of the Upper and Lower lakes. Time, 5 hours; distance, 72 miles; fare, one dollar.

"Men, from place to place, shall fly
In the twinkling of an eye."

SHOPS

Throughout the many years of its existence, TCRT has had but two shops. These were Nicollet Shops and Snelling Shops. In its day, Nicollet Shops represented the ultimate in electric railway car building and repairing. When it grew obsolete, Snelling Shops was built and remains today one of the finest plants of its kind in the country.

On these next pages, we examine Nicollet and Snelling Shops in detail.

Nicollet

NICOLLET SHOPS: When Minneapolis Street Ry. took over the Mpls. Lyndale & Minnetonka Ry. (the motor line) in April, 1887, the roundhouse, shops, and turntable at 31st & Nicollet continued to service the steam trains until the latter were discontinued in 1890. In June 1891 a street car construction and repair shop, plus a separate operating car station, were built---with the old roundhouse and shops being remodeled as a part of the project.

The new and old buildings and yards took up an entire city block, making it one of the largest electric railway establishments in the nation at that time.

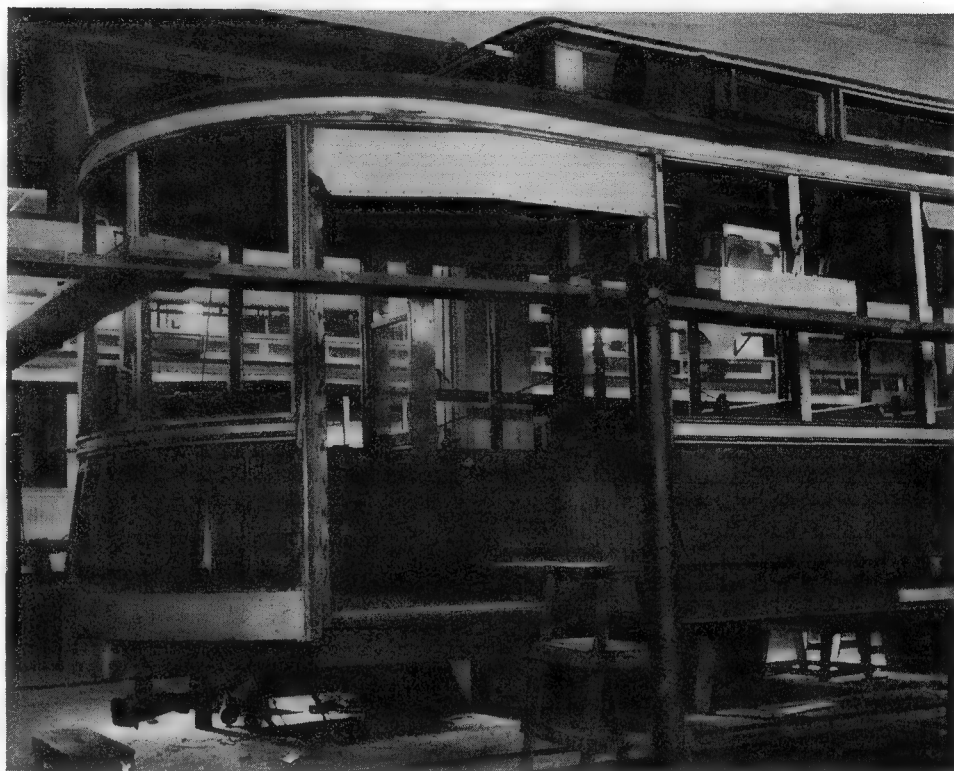
The shops were equipped to manufacture all car parts that were needed.

The electric repair shop was moved late in 1891 to the power house then being built at the northeast corner of the property.

In 1898, TCRT embarked on a car building program that eventually saw more than 1200 streetcars produced by it. So, in 1898, it improved and enlarged Nicollet Shops and for nine years this was the core of all car building and maintenance.

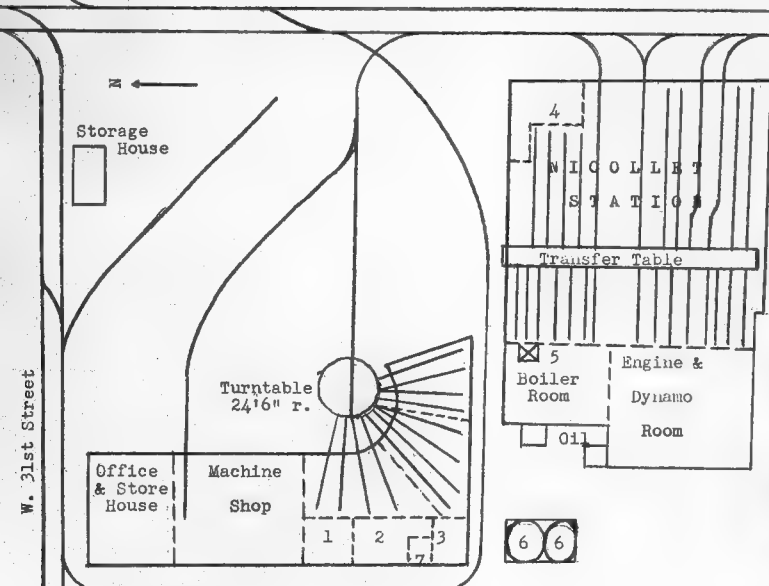
Finally, in 1906, TCRT definitely outgrew Nicollet Shops. The company decided it to be wiser to erect a completely new and more modern shops at a more central location and Snelling Shops was the result. Upon the opening of Snelling Shops in 1907, Nicollet Shops saw itself transformed once again. Every bit of trackage was ripped up. The car house and the power house were razed, but the old shop building was left for use by the Maintenance of Way Department. A new car house was erected, along with a completely redesigned track layout.

So Nicollet Shops passed from the scene.



TCRT cars were noted for their excellent maintenance. The reason was not difficult to find: each car was torn down to underframe every five years, ailing parts renewed, and put back in service as good, or better, than when first built. One of the first acts of the Green administration was to close down this rehabilitation program.

Nicollet Ave.



Blaisdell Ave.

- 1 - Armature Room
- 2 - Magnet Room
- 3 - Blacksmith Shop
- 4 - Conductors' Room
- 5 - Smokestack
- 6 - Oil Tanks
- 7 - Brass Foundry

NICOLLET SHOPS & STATION

As rebuilt in 1891

All buildings brick

Sketched by Russell L. Olson



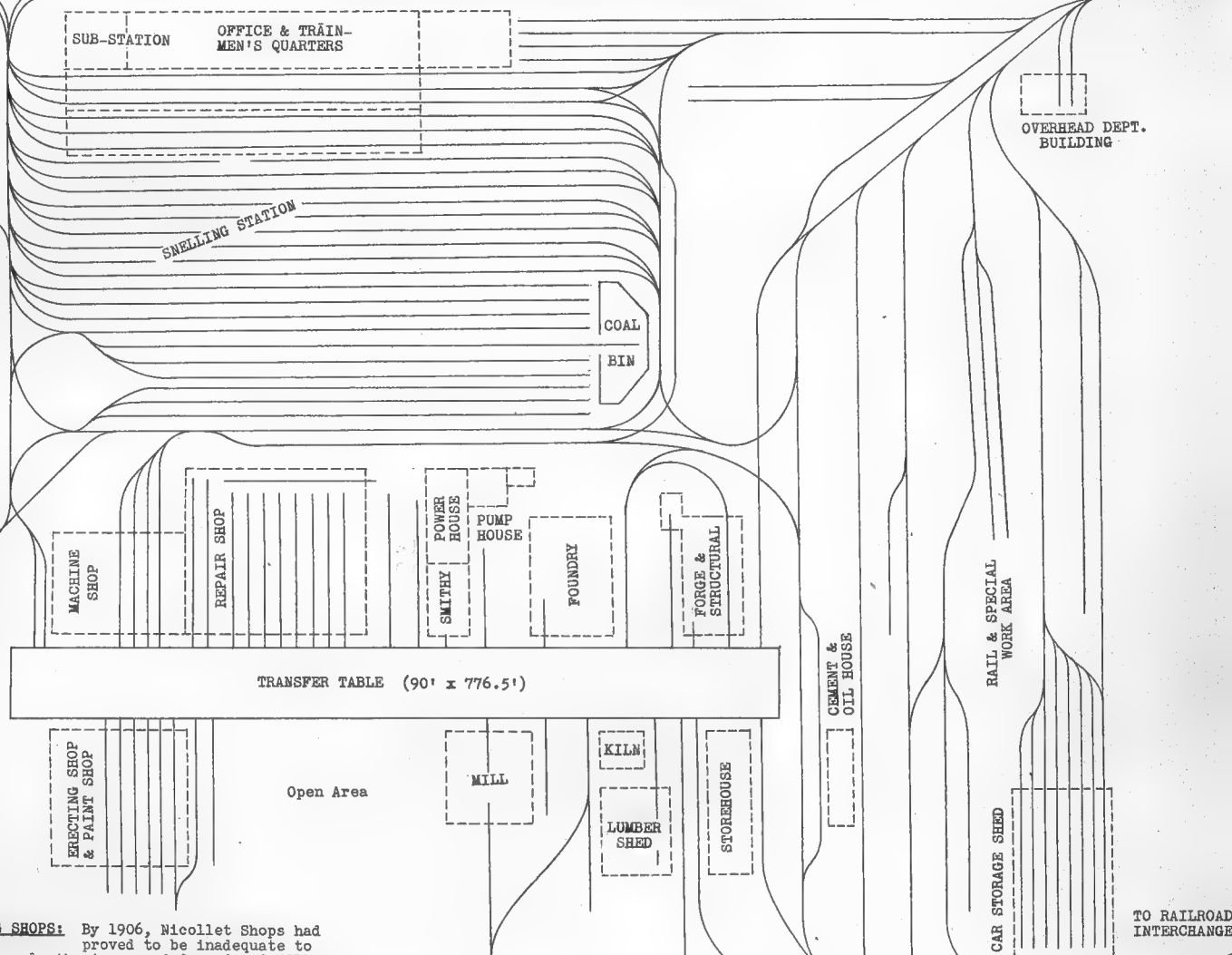
Nicollet Roundhouse as it appeared about 1900, practically unchanged since it sheltered the Minnetonka steam trains.

Engine Room & Boiler Room	1 story	80' x 155'
Car House	1 "	155' x 193'
Machine Shop	1 "	94' x 110'
Repair Room	1 "	125' x 207'
Storehouse	3 "	63' x 94'

Snelling

University Ave.

Snelling Ave.



SNELLING SHOPS: By 1906, Nicollet Shops had proved to be inadequate to meet properly the increased demands of TCRT, and it was decided to construct an entirely new and much larger shops at a more central location. The area decided upon was a forty-acre tract of nearly level land almost exactly half-way between the Twin Cities on the main electric line between them, University Ave.

1907 saw work begun and concluded on the main buildings of the new shops, which were given the name "Snelling Shops" from the street they faced upon. Eleven buildings were originally contemplated, but only six were constructed in 1907: machine shop, mill, paint shop, smithy, heating plant (same building), foundry and kiln. Adjacent to the new shops and built at the same time was the Snelling car station. Contemplated for future construction were: the erecting shop (between the paint shop and mill), a store house, a track shop and a wheel shop; the erecting shop never was built (a portion of the paint shop being used for this purpose), the site for the wheel shop became the location of a large general repair shop, the smithy was built but later was converted into a dining room, a building for forge and structural use took the site of the track shop, and the track and rail bending area was moved eastward to a larger site.

The buildings were constructed of reinforced concrete throughout, with superstructures of hollow cement blocks and cement brick, made on the grounds as needed. The designs for the buildings and the plans for the grouping of the buildings were prepared after careful consultations by the heads of all the departments in any way interested; practically every de-

partment of the system, therefore, had some part in deciding the character of the plant.

The plant consisted of two main divisions: the car station and trainmen's quarters, and the shops.

As built, the Snelling Station was 360' in length and could hold 42 cars. Outside tracks could accommodate about 150 more. In all, 25 tracks were used by Snelling Station. The six tracks inside the station building had pits their entire length, enabling light repairs to be made there.

The shops were equipped to build complete cars (including trucks) as well as to perform normal heavy repairs. The machine shop had three traveling cranes of 12,000 lbs. capacity each, and traversed the entire central bay, 50' x 200', which was given up wholly to motor and truck repair and construction. On the second floor the lighter work was done—such as armature winding and air pump work. The machinery of the machine shop (as of the entire plant) was electrically driven at 230 v. D.C. Machines of less than 3 hp. were grouped and others were run on independent motors.

The foundry was equipped for the manufacture of all of the company's castings except those of malleable iron and wheels.

A study of the accompanying general plan will quickly show the logical and natural arrangement of functions, whether for the repairing of existing rolling stock or for the construction of wholly new cars. First, on the east, were the sources of supplies, the open yards, the sheds, the storehouses. From these, materials could be sent to any of

the buildings easily and quickly. If large construction work was in order, supplies went down the line to the foundry, the smithy, the wheel shop and the machine shop (the place of final assembly); or, on the other side of the transfer table, materials went from storehouse and kiln to the mill for manufacture of all the woodwork of the cars—thence to the erecting shop, and finally to the paint shop where cars received their final touches and were shunted out to the car station.

The transfer table was 775' long by 90' wide; originally its power was taken from a wire carried against the side of the pit and protected by a projecting ledge of concrete with a wooden guard. Later a trolley wire was strung overhead and a trolley pole put on the roof of the transfer table cab.

Alongside the transfer table on either side were 30-foot planked platforms, extending its full length; these allowed the trucking of material or work from one shop to another without calling upon the transfer table.

In later years, various buildings were added to Snelling Shops: the general repair shop (largest single building), lumber shed, forge, a building for the use of the Overhead Department, a cement and oil house, a large storage shed for cars (which burned in 1925) and in 1949 a large bus rehabilitation center was installed between the Paint Shop and the Mill.

CAR STATIONS



CAR BARN: In St. Paul the first horse car barn & stable was a two-story brick building on Exchange St., between 3rd & 4th Sts. In 1880, a new central barn and office building was erected on St. Peter St. between 4th & 5th. This three-story brick structure housed 150 horses, thirty cars, and the blacksmith & repair shop on the ground floor, while the upper floors held offices, sleeping rooms for employees, and storage space for hay, grain, & oats. In 1882, other barns were built at West 7th St. between Lee and Tuscorora Sts.; University and Aurora, near St. Albans; Smith Ave. and Ramsey St. Later barns were also constructed at Rice and Front Sts., and at Maryland and Greenbrier Aves.

In Minneapolis, horse car barns were located as follows: Broadway & 2nd St. N.E., Chicago & Franklin Aves., Franklin & 16th Aves., 4th Ave. S. & 24th St., 27th Ave. S. & 26th St., Broadway & Monroe St., Washington & 19th Ave. N., Riverside & 24th Ave. S., 4th St. S.E. & 14th Ave. S.E., Dupont Ave. S. & 28th St., 3rd Ave. N. & 2nd St.

After electrification of the two systems, these barns were used as car stations: 3rd Ave. N., Washington Ave. N., 27th Ave. S., and Dupont Ave. S.; Smith Ave., Rice St., and (ex-cable) Dale St., E. 7th St.

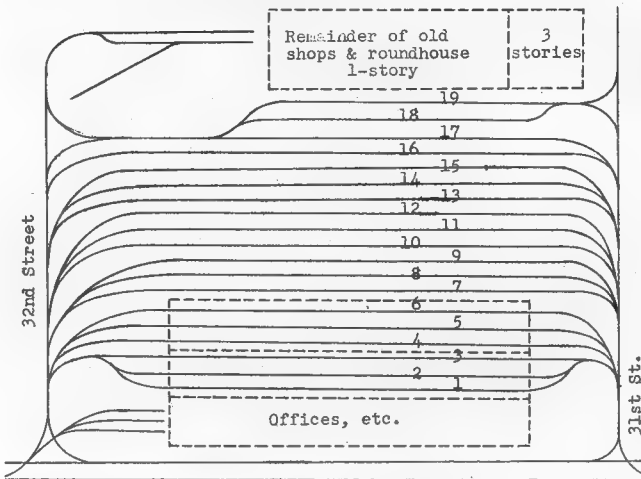
A small station was built at Bloomington Ave. & 32nd St. in 1891. With the continued expansion of the system, this structure proved to be too small, and was abandoned in 1911 in favor of the newly-opened Lake St. Station. The latter, on Lake St. between 21st & 22nd Aves. S. stayed all-rail till 1950 when the portion of the house containing tracks 4, 5, & 6 was converted into a bus garage. The East Side Station (Mpls.) was completed early in the summer of 1891 at University & 2nd Aves. N.E. Changes in the track layout at East Side were made in 1910. North Side Station, at Washington & 26th Aves. N., was opened October 25, 1914. By 1950, tracks 4, 5, & 6 had been converted into a bus garage. Nicollet station was constructed at the east side of the block bordered by Nicollet Ave., 31st St., Blaisdell Ave., & 32nd St. (See Shops).

Midway Station, at University Ave., east of Raymond Ave., was a two-story brick car-house & office building built in 1891, and abandoned in 1908. It was used only by cars of the "Interurban" line. The Smith & Ramsey Station was severely damaged by fire in 1892, but continued to be used by electric cars until 1911. A small station was located in South St. Paul at Concord and Richmond Sts., near the end of double track on the Invergrove line. It had a capacity of thirty cars, and was used mostly to eliminate deadhead mileage for trippers serving the nearby meat-packing plants. Built in 1920, this station served TCRT until 1932, when the building was sold to a trucking firm.

The cable car and power house on E. 7th St. at Duluth Ave. was remodelled and used as an electric car station and repair shop after 1893. At that time, all the tracks were enclosed, but the increasing number of cars made periodic changes necessary. Between 1901 and 1912, much of the original structure was rebuilt and an entirely new track layout installed, with tracks 1 thru 6 being enclosed. In 1922, a two-track building was constructed at the west side of the property for maintenance of Stillwater suburban cars. However, it was never used for that purpose, an overhead crane on the #3 house track being deemed adequate. Later, part of the car house was torn down, leaving tracks 4, 5, & 6 out in the open. The open summer cars and work cars had been stored on these tracks. A portion of the western part of the yard was taken over for bus storage in 1927, and the two-track building on this side converted to a bus garage. Use as a street car station was discontinued on 17 May 1952, due to abandonment of most of the St. Paul local lines.

A car house, office, and substation was built at Owen St. Siding in Stillwater. This had three house tracks, plus one open storage track on which the line car usually stayed. Only the Stillwater local cars were regularly kept at Owen St. Station.

Blaisdell Ave.



Nicollet Station

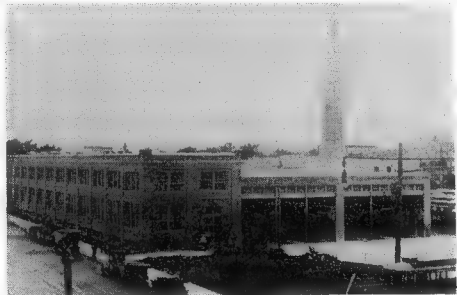
As Rebuilt, 1916

Drawn by R. L. Olson

Offices: 2 stories,
35'x305'
House: 1 story,
110'x305'

All brick

Opened:
Closed: July 10, 1953



Nicollet Station, photographed just before its last rebuilding. Car 1092 is seen in the right foreground. To the extreme right a portion of the old steam railroad round house can be seen, while the old smokestack still dominates the scene.

Nicollet Station (known as 31st Street Station for years) began as the center of activities of the 'Tonka steam motor line. In 1891 the buildings were remodeled and new ones added to form Nicollet Station & Shops. In 1907 Nicollet was entirely rebuilt and again in 1916.

As of early 1911, the following lines and cars were based at Nicollet:
4th Ave. So. & 6th Ave. No. 1000s
Washburn Park & Col. Hts. }
1st Ave. So. & Central } 1000s &
1st Ave. So. & Grand } slow 1200s

PCCs came to Nicollet Station in 1947 for the Nicollet and 4th Ave. runs.

Nicollet Station ran its last car on Friday, July 10, 1953. Nicollet's PCCs pulled out as usual for their runs that day, but pulled in to East Side Station upon completing their runs. The eight remaining standard cars pulled in as follows: 1662, 1823, 1833 to Lake St. Station; 1533, 1544, 1546, 1549, 1551 to East Side.

Nicollet has now been rebuilt another time---this time into a huge bus garage.

CAR ASSIGNMENT: Cars were assigned to the various car houses upon determination of the General Superintendent of the system. Each station puts its cars on the various lines according to a definite pattern. This was done so that each car got cleaned daily and inspected every other day for wheel and brake defects.

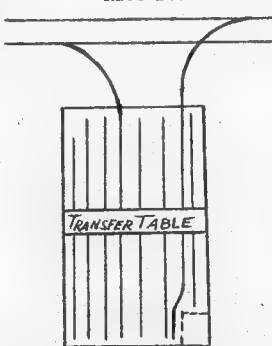
The method listed below was in effect since 1936. It is not known how cars were assigned previously.

	Nicollet	North Side,	Lake St.
	Snelling	Odd-#	Even-#
First Day	1100s	Cars	Cars
	1500s		
	1600-1607		
	1800s		
Next Day	1200s	Even-#	Odd-#
	1400s	Cars	Cars
	1600s		
	1700s		

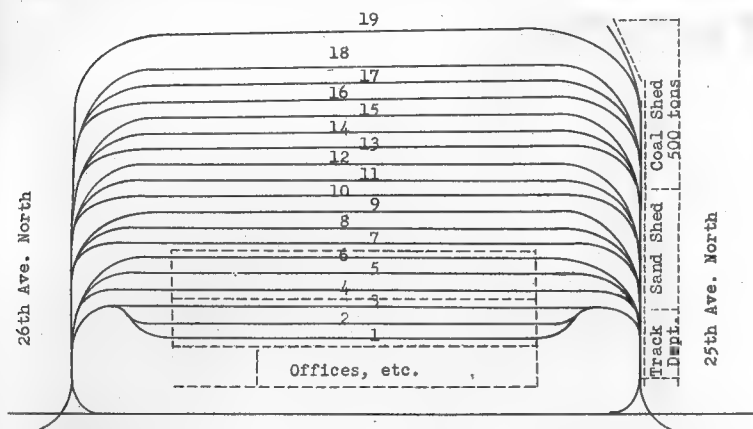
Since Duluth Station was rather small and did not hold enough cars to permit odd-or-even-numbered cars on alternate days, the following system was used there: If the car were used all day, it would be used for trippers the next day in order to permit inspection time.

RICE STREET STATION, 1892

Rice St.



1 story frame, 89x132'
Capacity, 30 cars



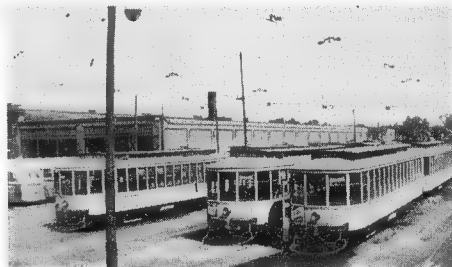
Washington Ave. North

Offices: 40' x 200' 2 stories
House: 80' x 300' 1 story

North Side Station

Opened: 25 October 1914 Closed: 10 July 1953

North Side was built to relieve Lake Street, and all its cars came from Lake Street in 1914. It housed lines: Chicago-Penn-Fremont, Broadway, and parts of Interurban, 28th Ave.-Robbinsdale, 34th Ave. S.-N. Bryant. It has now been converted into a large bus garage.



North Side Station, 1952, showing cars 1480, 1384, 1199. (EHN)

11-5-10: Lines transferred to new Lake St. Station:

Line	Cars	Station From
8th Ave. So. & Emerson	608-626, 832-836	East Side
8th Ave. So. & 20th Ave. No.	752-757, 900-909	" "
M'haha Falls & Riverside	813-816, 1124-1142, 1217-1228	" "
Snelling-M'haha Interurban	1179-1195, 1196-1200, 1241-1255	Snelling
Selby-Lake Interurban	1391-1420	Nicollet
Plymouth & Bloomington	992-1048	Bloomington
Cedar & Camden	" "	" "

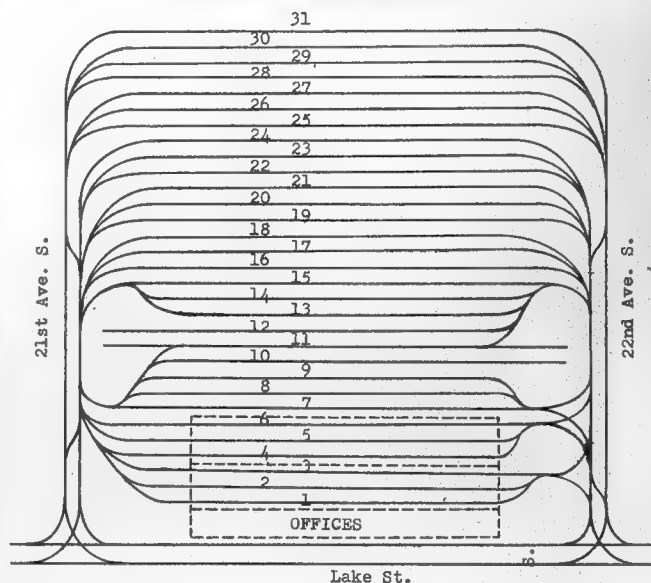


Lake Street Station yard, 1948. (FH)

Opened: 5 November 1910 Closed: 31 December 1953* * Tentative date

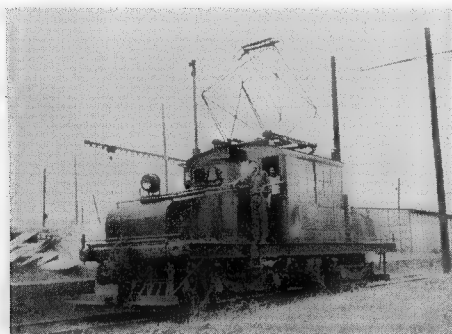
Lake Street Station was constructed to replace Bloomington Station. Careful plans were laid in the months prior to its completion, and the changeover was made so smoothly that a year after it opened, exactly the same number of cars were based there as was planned, months earlier.

Lake Street Station

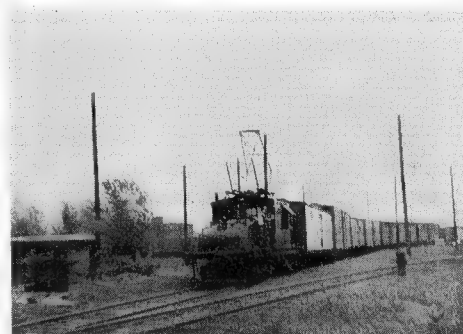


Offices: 130' x 300' 2 stories All Brick
House: 50' x 300' 1 story

The following lines operated out of Lake Street in recent years: Minnehaha-Fort Snelling, Fort Snelling Shuttle; parts of these lines also operated from Lake: Interurban, Bloomington-Columbia Heights, Plymouth-E. 25th St., 28th Ave.-Robbinsdale, 34th Ave. S.-N. Bryant, and Selby-Lake.



The St. Paul Warehouse Line was an industrial switching line which owned one electric loco.

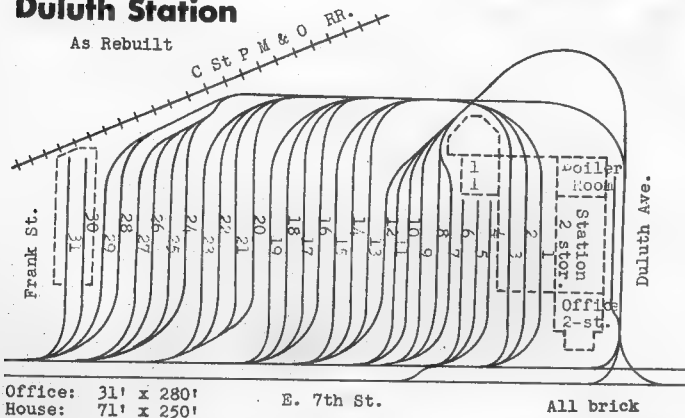


The locomotive was built by General Electric and used pantograph. (All photos by R.O.)

CAR STATIONS

Duluth Station

As Rebuilt



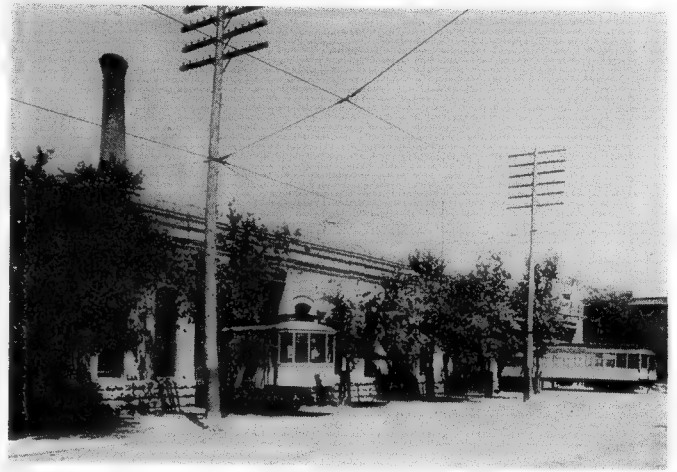
Office: 31' x 280'
House: 71' x 250'

E. 7th St.

All brick

Duluth Station was known for years as "7th Street Station." It was originally a cable car operating center, then rebuilt into a station for electric cars.

The following lines were based at this station in 1909:
Stillwater, Mahtomedi, White Bear Jackson-Stryker
Rice-So. St. Paul & Inver Grove Rondo-Maria
Randolph-Hope Seventh St. (locals)
Mississippi & W. St. Paul

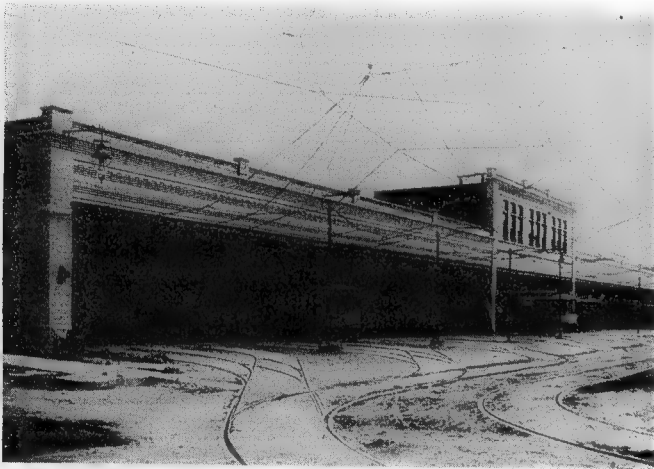


Duluth Station about 1900. Note cable slot in tracks at right. Far car is #785, "St. Paul & Stillwater."

Opened: 1893 Closed: 17 May 1952

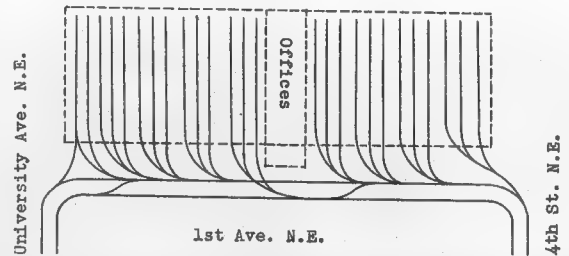
East Side Station

Opened: 1891 In Service, 1953



East Side Station about 1900, when it had 30 tracks; in later years this was cut to 26 tracks.

East Side is the base of the Intercampus Line, and received PCC cars in 1949 for the Como-Oak-Harriet line. It is the last station to operate, and will probably bring all TCRT's rail operations to a final halt about June 1, 1954.



East Side Station was unique in that all its tracks were within the station building. Arrangement of posts between certain tracks made it impossible to fire up the hot air system coal stoves on wide standard cars, so for most of their years the electrically-heated standards were assigned to East Side.

As of early 1911, the following lines operated out of East Side:
Como-Harriet-Hopkins Fast 1300s
Oak-Harriet Fast 1300s
Monroe & Bryant 913, 1332, most 900s.
Western & 2nd St. N.E. 900s, 700s, etc.; --GE 67 cars
Kenwood & 8th St. S.E. 1149s (Tonka car slowed for winter)
Lake Minnetonka GE 73 suburban cars; some slows in winter
St. Louis Park 760-763, specially equipped in 1910.
Bryn Mawr 877-879 (short cars)
Robbinsdale Extension 897-899 (short double-end cars)
Camden Extension 897-899 " " " "

Turntable

University Ave.

MIDWAY CARHOUSE---1892

94' x 310'
House: 1 story, brick
Office: 2 stories, brick

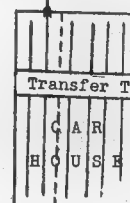
Capacity: 70 standard cars

Opened 1891 Closed 1908

GREENBRIER AVE. CARHOUSE, 1892

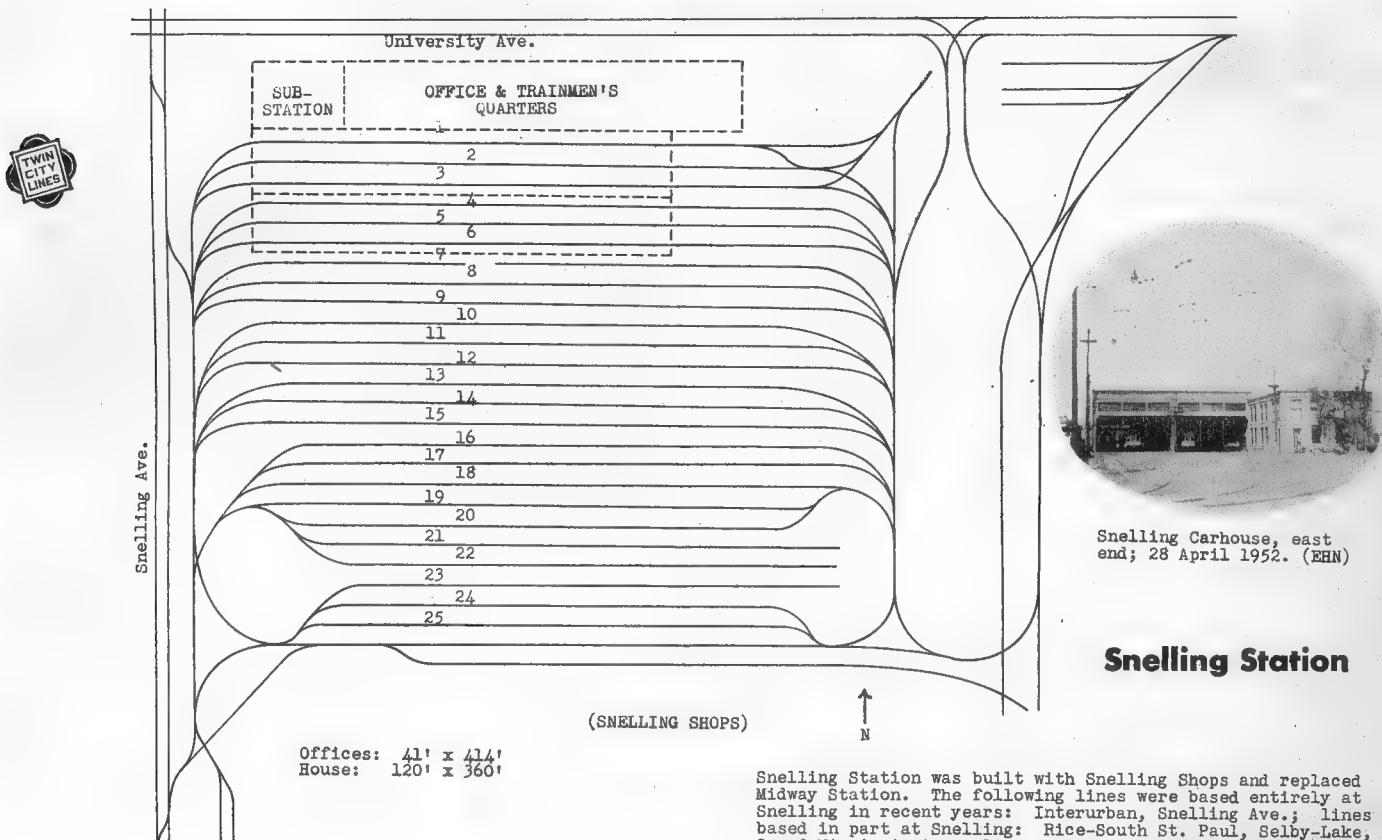
Old horse barn & car house
Maryland

1 story frame, 66x125'
Capacity, 17 cars



Barn

Greenbrier



Snelling Carhouse, east end; 28 April 1952. (EHN)

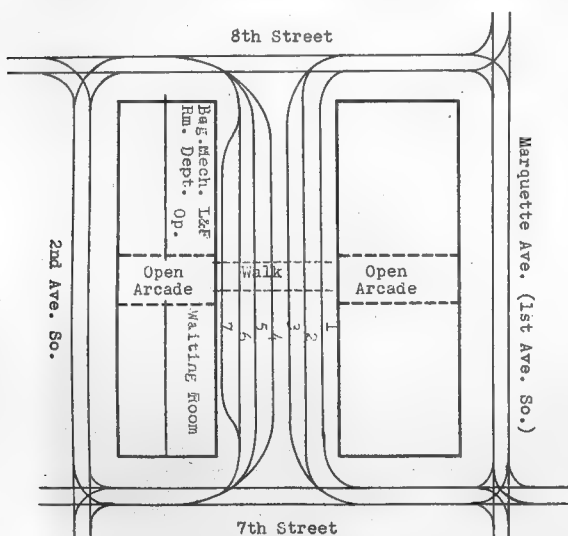
Snelling Station

Opened: 1907 Closed: 31 December 1953 (tentative)

Snelling Station was built with Snelling Shops and replaced Midway Station. The following lines were based entirely at Snelling in recent years: Interurban, Snelling Ave.; lines based in part at Snelling: Rice-South St. Paul, Selby-Lake, Grand-Mississippi, Hamline-Cherokee, St. Clair-Payne, Dale-Phalen, and Randolph-Hazel Park-Mahtomedi.

Snelling Station was first to get PCCs.

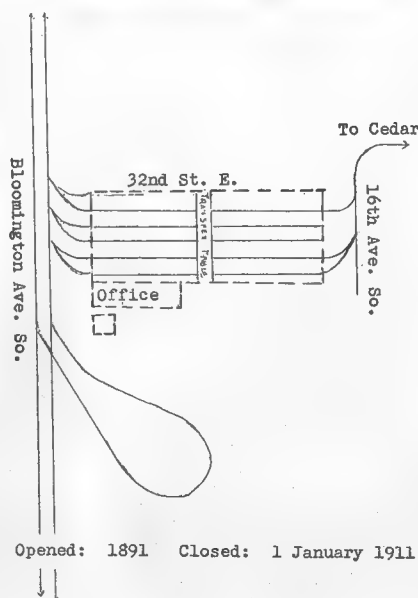
In 1949 certain trackage was rearranged to permit easier access and egress. Compare this track plan with that of Snelling Shops & Station.



Minneapolis: Proposed Terminal Block, 1915.

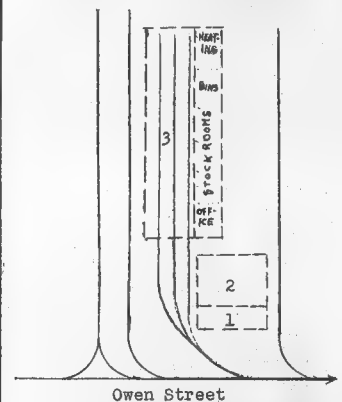
ALL lines were to terminate here. The land was purchased, but the terminal was never built; TCRT was accused of buying the land from hidden profits.

Bloomington Station



Owen Street Station

Owen handled the local lines in Stillwater.



1: Office } Brick,
2: Substation } 50x32'
3: Car House (wood, 50x145')
It used first the short 800s (868-872), then lightweights 1-4.

ROSTER & CAR DESCRIPTION

TCRT cars fall naturally into five groups: early cars, standard cars, lightweight cars, PCC cars, and service cars. We have followed this grouping in the section which follows. Certain remarks may in general be directed at all cars:

The first cars designed and built by TCRT had a rear platform enclosed except for the wire gates. The window sashes could be lowered completely into the side-wall. The cars were kept warm in the winter with the aid of storm windows, sliding bulkhead doors, and a coal stove in the motorman's compartment, connected to a hot water piping system in the passenger section.

The well-known TCRT yellow was soon adopted as a standard color. Details of the paint scheme were as follows: Yellow above the floor line, with medium-brown trim; dark green for all equipment and trim below the floor line; tuscan red for window sashes and roof. The wire gates were dark green. Numbers were painted in silver on each side, plus silver striping around the wood paneling below the windows. Headlight casings and trolley retrievers have always been dark green.

737 thru 1290 were equipped with Baker hot-water heaters in the motorman's compartment when built. 1291-1685 had Peter Smith heaters, and 1686-1855 had TCRT-designed heaters in the motorman's compartment. Cars that were rebuilt with front exits had hot-air heaters installed under their floors, with air ducts connecting to the interior of the car, while electric heaters were installed in the front vestibules. In 1928 cars assigned to East Side Station were entirely equipped with electric heaters.

Until the experimental equipping of 1788 in 1918, all cars had only rear gates for passenger use. Between October 1920 and December 1928, 590 cars of 1200-1854 were rebuilt with front exits. These consisted of single-width folding wooden doors at the right-hand side of the motorman's vestibule. They were mechanically interlocked with the hand-operated lever for the rear gates, so that the gates could not be opened while the front exit was closed. This was supposed to prevent the motorman from not noticing that the rear gates were open and starting the car without closing them. The gates were operated by a rod running the length of the car underneath the right-hand side, connecting with a crank mechanism at each end.

Before 1931 the only cars capable of being one-man operated were 1-4. In that year work was started on the conversion of the majority of the 1166-1854 group to one-man operation. These were not all out of the front-exit group above, as 1166-1199 were rebuilt with air doors directly from rear-exit-only cars. Remodelling included installation of air-operated doors at both ends, modification of controllers and brake valves to give dead-man control features, and installation of electric heaters on the front and rear platforms. However, the necessary features of two-man operation, such as the rear fare-box post and the conductor's bell cord, were retained so that

these cars could be used on any line as required. None of the cars were equipped with treadles for the rear doors, so that the operators had to depend on mirrors to determine when the rear doors were clear. By the end of 1936, 441 cars had been rebuilt, leaving only 170 cars in their original two-man design. Five more were rebuilt in 1942 to replace ones damaged in accidents and scrapped.

The last cars in operation without being rebuilt for one-man service or with a front exit in continued two-man service were various ones of the 1000 series, retired by 1940. Chicago-Penn-Fremont was the last line on which these were seen in regular (weekday rush-hours only) service.

1145-1163 and 1255-1265 had a clamp which was supposed to be kept on the controller handle while the car was traversing city street trackage, in order to prevent the controller being advanced past series position and propelling the car at excessive speed.

1136 was retained after 1936 solely for use as a supervisor's office and money car at the State Fair Grounds yard during the nine or so days of the annual fair. For the remainder of the year, it was stored at Snelling Shops.

Two general types of trucks have been used on most cars of the 1164-1855 group. These have either a six-foot or a five-and-a-half-foot wheelbase. The six-foot trucks may be identified by their solid equalizer bars, while the five-and-a-half trucks have slotted equalizer bars. Many trucks on one-man cars have been equipped with roller bearings, including all the remaining 1100s.

1534 was one of two cars experimentally equipped with helical gears instead of the spur type prevailing on cars numbered below 1855. This innovation resulted in quieter running, and smoother, though not faster, acceleration.

Until 1949 car numbers were always on the sides only, but since then numbers have also been painted on both ends of the cars. Lettered below the trolley catcher, on the outside of the rear platform, are the words "STOP 10 FEET BACK".

The company emblem was never used on the cars until the purchase of the PCCs. Now it is on all steel-sided passenger cars, plus a commercial advertising panel on each side. All cars have the usual advertising cards inside above the windows, while all except the PCCs also have two of them in the upper sashes of five windows on each side, one card turned outward in each window so it may be read by pedestrians.

Standard passenger cars have always been equipped with roller destination signs having thirty readings. Each station has a certain series of readings on its signs, so that when cars are reassigned to other stations a different set of signs must be installed. The rolls are carried in the deck roof, one at the front, and one on each side near the rear. One oddity of the TCRT roller signs was the use of black letters on a white background, instead of the usual white letters on a black background as with most other companies. After the arrival of

the first PCCs in 1946 and 1947, with their signs having white letters, all replacement signs installed on standard cars were of this style. All cars carried a wooden sign with the words "Entrance" or "Exit Only" on opposite sides of the panel. These were used in the right front vestibule window. Originally required for the first front-exit cars, they read "Entrance" outbound from either city when used on the inter-city lines, and the motorman flipped them over to "Exit Only" when the city limits were reached. On other lines it was left at "Exit Only" as long as all cars were two-man operated. When one-man cars were introduced it was left at "Entrance". As lines were extended or new wyes built, cars used additional wooden panel signs in the center front vestibule window until the proper indication could be added to the roller signs.

The 2000s and 1-4 always had roll signs with white letters on a black background. These were carried in the top sash of the right front window and the right rear side window. 2002-2005 originally had the front sign outside on the roof.

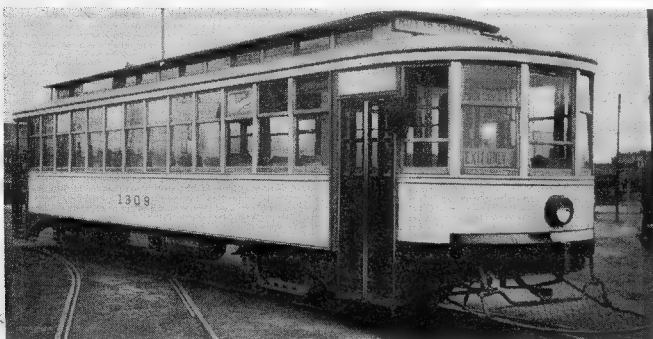
The first company-built cars had peanut whistles, but soon a deep-toned air whistle was developed as standard. These were carried on the front of the roof, and operated by a pull-cord with a wooden handle at the end near the controller. PCCs have Klaxon-type horns for emergencies, while retaining the standard bell for ordinary use. All non-PCC one-man cars have air-operated foot gongs in addition to the manually-operated ones as on gate cars.

Two cars operating out of Snelling Station were experimentally equipped with oil burners for car heaters in 1946. A valve in the oil line was placed in the front vestibule where it could be adjusted by the motorman without his leaving the controls. This was expected to save considerable time on one-man cars, not to mention the elimination of discomfort due to working the coal fire outdoors in sub-zero temperatures.

Cars 1254 and 1266-1328 were equipped with all-electric heat, as the East Side Station, to which they were assigned, had stalls too narrow to permit shopmen to work on the outside stoves alongside the wide cars (up to 9'2" as against 8'8" or less for cars 1144 and below).

Gate cars always had manually-operated sanders. These caused considerable inconvenience in the rare instances when the fastenings came loose from the cab-side (at right). Fred Howarth recalls dropping sand by hand on a Selby-Lake car one rainy evening---dropping the gritty stuff through the floor opening for the switch-rod in order to get started on one steep grade. All one-man cars had air-operated sanders, operated by a foot pedal at the right of the controller, with the sand in bins under the front longitudinal seats, as against the knee-operated lever and bin in the motorman's compartment on the gate cars.

All non-PCC cars had front-platform holes in the floor for switch rods. This enabled the motorman to set track switches without going outside the car. A wedge-shaped holder in the floor kept the rod from dragging on the ground when the car was moving. A pivoted cover over the hole kept out cold winter air.

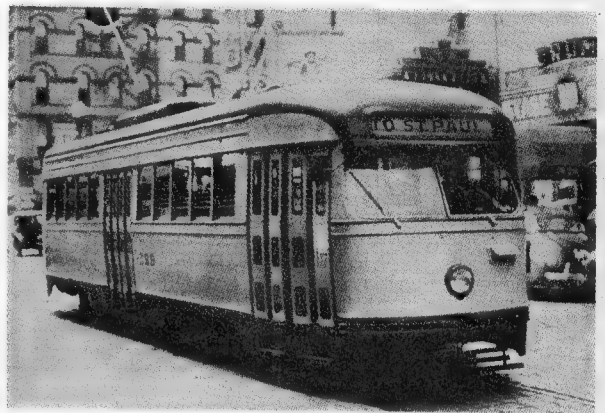
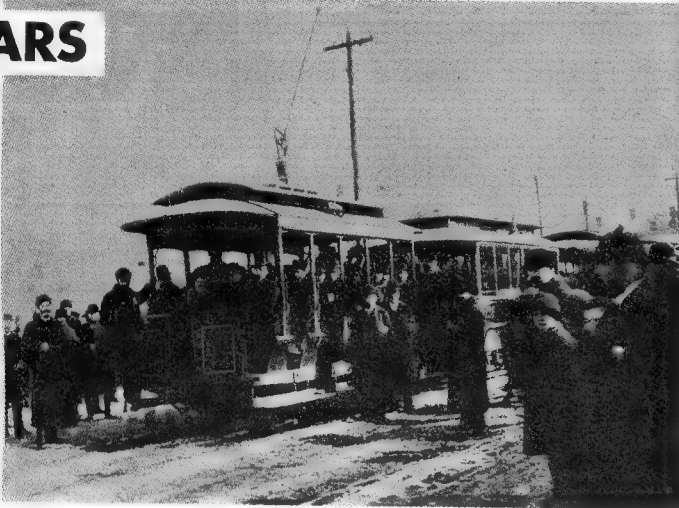


TCRT's original standard type car was like 1309, pictured above in 1929. TCRT built 1,234 cars of this type in its own shops.



TCRT's lightweight standard type car was like 2006, pictured above in 1931. 35 lightweights served on TCRT lines. (GK)

CARS



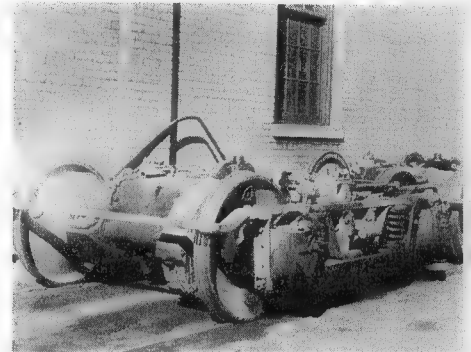
The Twin Cities have run the gamut of streetcar types from converted horse car trailer to PCC. At left we see St. Paul's first streetcar train about to enter service on the Grand Ave. line; the date: February 22, 1890. In front of the car is Thomas Lowry, the father of TCRT. Above is shown TCRT's first PCC, car 299, purchased from Pittsburgh.

TRUCKS USED BY T.C.R.T.: (List by R.O.)

Trucks	Wheelbase	Motors	Wheels	Remarks
Peckham ST	8'0 $\frac{1}{2}$ "	GE WP	33"	Work cars 26-28 only
Special ST	7'6"	GE 67	33"	Work car 35; some without motors on shop gondolas
Bemis ST	7'4"	SRG	33"	Jones-built cars
Bemis	7'6"	None	33"	Work car 70 only
	5'1 $\frac{1}{2}$ "	(GE WP	33"	
		GE 67		
Brill	5'8"	WP, 67	33, 34"	
Brill 01	5'8"	57, 67	34"	
Brill 02	5'8"	67, 70	34"	
Brill 03	5'8"	70	34"	
Brill 04	6'0"	WP, 70	34"	
Twin City	5'10"	WP, 57, 67	34"	
TC Work Car	5'8"	(57, 67,	33, 34"	
		70, 216		
Baldwin #1	6'0"	67, 70	34"	
Baldwin #2	6'4"	73	34"	High speed cars only
Baldwin #4	6'0"	57, 73, 216	34"	
TC #4	6'0"	57	34"	U of M work car only
Baldwin #5	6'0"	70, 213,	34"	
		216, 203		
TC #5	6'0"	70, 213, 216	34"	
TC #6	6'0"	216, 200	34"	
TC #7	5'8"	57, 216	33, 34"	Work cars only
TC #8	6'0"	(70, 213, 216,	34"	
		200, 203		
TC #8 RB	6'0"	203	34"	
TC #9	5'6"	200, 203	34"	
TC #10	4'8"	258	26"	2000-2000A
TC #11	4'6"	264	26"	2002-2003
TC #11	4'6"	None	26"	Trailers 200-225
TC #12	4'6"	258	26"	Lightweights
TC #12 RB	4'6"	258	26"	Lightweights
Natl. Coil	5'8"	275	26"	Crane car 83 only
Clark	5'8"	1220, 1432	25"	PCCs

Motor Horsepower:

WP:	25
GE 67:	38
GE 57:	50
GE 70:	40
GE 73:	75
GE 216:	50
GE 213:	50



One of TCRT's standard home-built trucks. Very similar to Baldwin.



TCRT built its own cars because it found no manufactured cars to be sufficiently insulated to resist the rugged Twin City winters. In the above photo, car 1376 heads a string of storm-stalled cars. (CS)

IDENTIFICATION NOTES ON TRUCKS:

Brill 1900, 1901, 1902, 1903: All identical; no plate; outside hung brakes.

Brill 1904: Outside hung brakes; heavy gusset plate.

TCRT (no number): Same as Brill with extra rod across, outside hung motors, inside hung brakes. Probably developed and built after Brill 1904s.

Baldwin #1: Outside hung brakes.

Baldwin #2: 6'4" wheelbase, 2" frame.

Baldwin #4: 6'0" wheelbase, 2" frame.

TCRT #4: Identical with Baldwin #4.

TCRT #5: Wide split pull rod around wheels.

Baldwin #5: Same as TCRT #5.

TCRT #6: Short nose on equalizer bar, 1 $\frac{1}{2}$ " frame; similar to #8 & #9.

TCRT #7: (Work Car) 15" channel center and 5" channels around the wheels (there were earlier TC Work Car trucks, no number, on flats and wire cars of 1904-1907).

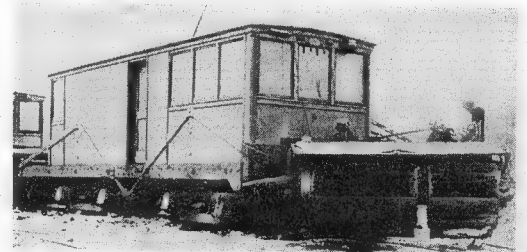
TCRT #8: Long nose on equalizer bar, no holes in same; 1 $\frac{1}{4}$ " frame.

TCRT #9: Holes in equalizer bar; short wheelbase.

TCRT 6, 8, 9: Outside brake pull rod.

TRUCKS & MOTORS OF STANDARD CARS: So many changes were made in trucks and motor equipment of TCRT cars that it is impossible to compile any all time list. Lists can be given for certain times, which are typical of operations over a period of years.

In changing trucks of crippled cars, and cars in for rehabilitation, attempts were usually made to provide the same type of trucks as the



cars had before. Sometimes this was not possible.

All Standards were double truck cars. Cars 737-899 were built with only two motors. In 1902 the first cars were built with four motors & air brakes. Older cars were so equipped later, most of them from 1903 to 1905. Many equipment type changes were also made at that time.

Bemis trucks were used for many of the first Standard cars. Brill 27-E trucks appeared about 1900, Baldwin trucks about 1905. WP motors used on some early Standard cars were probably old equipment. GE 57 motors were probably the first new ones bought, perhaps for the high 700s (785-795) built for Stillwater in 1899.

GE 67 motors probably came into use in 1901. (Duluth cars 151-162 had Brill trucks, GE 67 motors, built 1901.)

GE 70 motors were probably bought with the first Baldwin #1 trucks, about 1905, with extra equipment being bought at that time for changes to the older cars. Many WP and GE 57 motors removed from passenger cars were then used on work cars.

In 1905, suburban cars 1112-1123 were built, with heavy Baldwin #2 trucks and high-speed GE 73 motors.

A large building program for the suburban lines was carried out in 1906. Baldwin #2 trucks with GE 73 motors were again used for the new double-deck car 1145; these were probably on hand while that car went through a long planning period. 50 additional suburban cars were to be built. 18 cars, 1146-1163, were actually equipped with Baldwin #4 and GE 73s. 32 cars, 1164-1195, also got heavy Baldwin #4 and GE 87 motors, and were built very heavy with the intention of double-decking them (not carried out except perhaps on one car). The GE 87s were probably replaced about 1909 with GE 216s in the same trucks; a great deal of trouble was then experienced with these cars; the cars and trucks being so heavy, the 216 motors overheated when they were run too long. An order was issued in November 1911 to use these cars on pullouts only, preferably on the inter-city routes (not having been put into suburban service they were classed as interurban cars). Later they were assigned as regulars on lighter routes, and some may be so traced for many years; for instance, on the Robbinsdale line in the years before it went one-man.

1906 also saw the introduction of Baldwin #5 trucks with GE 70s on new "Local" cars 1196-1220. Duluth's 1906 cars, 183-197, are listed with "TCL trucks" and GE 70 motors.

In 1907, 1221-1290 were built with Baldwin #5, GE 70 motors. Several new motor equipments may have been tested on these cars; in 1909 cars 1288-1290 had GE 213 motors. In 1908, 1291-1309 got Baldwin #5-213 equipment; Duluth 198-203 got TC-213. Probably in 1908 cars 1260-1265 were converted to suburban cars with Baldwin #4-GE 73s. (Note: Baldwin #3 trucks mentioned in one reference only: 8-15-11, cars 1193-1195 changed from #4-216 to #3-70; K-37 to K-28; Luminous arc to Standard headlight.)

In 1908 and 1909, 1310-1369 and Duluth 204-214 were built, with TC #5-213 equipment. Then 1370-1379, from the same building order, got TC #6-216 equipment. Probably at this time 1164-1195 got 216 motors. New trucks at this time are listed sometimes Baldwin and sometimes TCRT.

New cars built in 1910 and 1911, with TC #6-216 equipment, were 1380-1485, and Duluth 215-241. (Their 238-241 same cars as 1482-1485.)

In November 1911 25 new cars were authorized, and trial of a new GE "lightweight" motor was to be made (more of this later). 75 additional cars were being considered, to have a new TC #7 trucks but a work car truck was developed first and became TC #7 (used with 216 motors on sand cars 43-45, built November 1911).

New TC #8 passenger car trucks went under new cars 1482-1581 in 1912, all with 216 motors except one car. The GE 203 motors arrived and were run in tests in March and April, 1912, with GE 203 in car 1348 for the tests, compared with 213s in 1342, and compared in April and June with 216s in 1422. This new set of motors then was put in the 1581, the newest car of the group.

Then 1564-1566 went to Duluth as their 252-254, with TC #8-GE 216s like cars 242-251, just built. Also at this time, 868-869 went to Duluth as 255-256, with TC trucks (like Brill), GE 67s. 992-993 were now converted to double end, with 216 motors.

The GE 203 motors were now adopted for new 1913 cars. The first new cars, 1564-1566, got the #8-216s from 1578-1580, in order to have the cars equipped in numerical order. First new 203s went in 1578-1580; 1581 already had them; and 203s went into new cars up to 1684 in 1914. Last new car then, 1685, got new #9 trucks with short wheelbase, new GE 200 motors. These motors had been tested in November and December, 1913, in car 1620, comparing them with the 203s in 1615 and 1622.

All the rest of the standard cars built, 1686-1855, Duluth 257-278, and Anoka 1-4, got TC #9 trucks and GE 200 motors.

Meanwhile, major changes had been made to some older cars.

The 900s were all mixed up between Brill-67 and Baldwin-70 equipment then, and 1135-1142 had Baldwin-67s---so in late 1912 and early 1913 they were switched around considerably, ending up thus: Brill 67s in 900-949, 976-980; Baldwin #1-70s in 950-975, 981 right to 1107, 1124-1144, etc.

In March of 1914, more suburban cars were needed, so 1255-1259 were converted, with Baldwin #2 trucks and GE 73 motors. The trucks probably came from the 1164-1195 group, some of which are listed later with TC #4 trucks.

MOTOR LIST, SUMMER 1917: (GE 57s gone from all passenger cars)

WP: 737-751, 817-831 (pullout cars)
67: 752-781, 786-788, 797-816, 832-858, 860-955, 976-980.
70: 956-975, 981-1107, 1124-1144, 1164-1168, 1189-1254, 1266-1288.
73: 1112-1123, 1145-1163, 1255-1265.
213: 1289-1370
216: 1169-1188, 1371-1577
203: 1578-1684
200: 1685-1855
258: 2000-2000A (Total: 1,000 cars)

BORROWING SUBURBAN EQUIPMENT FOR SNOW PLOWS: Each winter the snow plows were equipped with #2 trucks and GE 73 motors from the suburban cars, usually from the 1145-1163 group, mostly the 1150s in the group, with controller changes also being made: C6-M controllers into plows, K-37s into cars. (In summer, some of the plows were dismounted and stored at Snelling, while some got 216 motors and K-37 controllers and served as wreckers, etc.)

Less cars were of course needed for the winter on suburban lines. Before the company had a lot of big snow plows, Stillwater kept its full number of fast cars, but Tonka had to do with slowed-down cars; later, motors were borrowed from cars of both lines. The slowed-down suburban cars were given Baldwin #4-216 equipment from the 1164-1195 group (which then got GE 70s), and like that group of cars had to be used in light service to keep the 216s from overheating under the heavy bodies. So the suburban cars had, on their special sign rolls, Kenwood line readings besides the 'Tonkas, and Rondo readings besides the Stillwater signs, and most of the time ran on those lines when they were slow for the winter.

LIGHTWEIGHT TRUCKS: TC #10, with GE 258s, developed for train 2000-2000A in 1917.

TC #11, with GE 264, installed in train 2002-2003 in 1921. TC #11 trucks, without motors, installed in trailers 200-225, in 1920 and 1921. GE 258 motors for 2002-2003, installed in 1923, probably placed in #11 trucks.

TC #12 roller-bearing trucks developed for lightweights built for other cities, for 2004-2030, for 1-4, and used to replace earlier trucks in 2000-2003 when rebuilt in 1928.

1928 ROLLER BEARING TRUCKS: Very extensive truck changes were made to equip the new front-exit cars, 1254, 1266-1328. These were apparently the intentions:

64 sets of trucks were scrapped: Brill 04s under 1003-1041, and Baldwin #4s under 1166-1188, 1371-1375. These were replaced by the #5 trucks formerly under the new cars; 70s kept in 1000s, 216s in others.

64 new cars equipped with new #9 roller bearing trucks, using 203 motors removed from #8 trucks of 1595-1599, 1626-1684. 213 motors formerly in #5 trucks of the new cars, now placed in #8 trucks of 1595-1599, 1626-1684.

This did not all agree with some other lists. Apparently 203s actually were removed from 1578-1599, 1626-1667; these motors partly replaced by 213s as indicated above for whole group. However, 1254 and 1266-1291 had 70s, which were put in 1169-1188 and 1371-1375; the 216s from these cars went into the 1500s and 1600s, with truck changes made as had been intended.

MOTOR LIST, MARCH 5, 1930:

67: 762-954, 976-979.
70: 955-975, 980-1107, 1124-1144, 1164-1253.
73: 1112-1113, 1115-1123, 1145-1163, 1255-1257, 1259-1265.
203: 1254, 1266-1328.
213: 1329-1424
216: 1425-1685
200: 1686-1854
258: 2000-2030, 1-4

LAST USE OF OLD STANDARD CARS: In November 1935 plans were made for using some 30 old 1100s during the winter. These cars weighed 49,000-50,000 lbs., partly due to heavy trucks, too much for their motors. Some of these were to be changed, using some of 60 trucks discarded from cars rebuilt to one-man. Equipment then on the cars was changed as follows (if any change was needed):

From	To	Cars
#6-216	#8-70	1160, 1183, 1188, 1190-1192.
#8-216	#8-70	1173, 1175-1178.
#4-216	#8-70	1174
#5-213	#8-70	1179
#5-70	#8-70	1186, 1206-1216
	#8-70 Already:	1166-1168, 1170-1171, 1180-1182, 1184-1185, 1187, 1189;

REBUILDING OLD STANDARDS TO ONE-MAN: 31 cars from 1219-1253 were rebuilt in 1935.

They were equipped with #5 trucks and 213-216 motors, mostly equipment on hand.

30 cars from 1186-1218, rebuilt in 1936; got newly rebuilt #8 roller bearing trucks and rebuilt 203Q motors (bought second-hand). Similar equipment was bought or rebuilt for 20 cars rebuilt in 1937, 1166-1185.

The car bodies of these old cars required so much rebuilding that when finished the cars were practically new. Weight was greatly reduced, 1168 weighing 49,000 "before," 44,651 "after."

Note 1935: 1221 and 1236-1253 got spare 200, 203, 213 & 216 motors. 12 cars, 1219-1220, 1222-1229, 1233, 1235, got 216s taken from work cars, but installed in the cars' own #5 trucks. The work cars, 44-49 and 51-56, were given 70s in their trucks.

MOTOR LIST, JANUARY 4, 1937:

67: 813, 847, 875-876, 898 (spare double-end cars)
70: 1124-1128, 1131 (Jackson 1-man), 1129 & 1230 (DE), 1137-1138 (spare Jacksons), 1166-1185 (1-man).
203Q: 1186-1201, 1203, 1205-1211, 1213-1218.
203Q: 1254, 1266-1328
203: 1243-1245, 1329-1334. 200: 1236-1242, 1645-1854.
213: 1246-1247, 1335-1411. 258: 1-4, 2000-2030.
216: 1146-1149, 1219-1229, 1233, 1235, 1248-1253, 1412-1644.

Until the change of management in November 1919, TCRT pursued a systematic plan of car maintenance. Every five years each car was taken to the shops. There the trucks were removed and sent to the truck shop. The motors were then taken out and the truck frames and springs rigorously inspected, while the motors were gone over in the electric shop. Meanwhile in the erecting shop, the car body was tipped on its side and all electrical equipment removed and sent to the electric shop. The car body was then placed upon wooden supports and torn down to the framework. After a close inspection, any rotted, splintered, or rusted parts were replaced. The car was then reassembled and given a complete new paint job by hand. As this amounted to practically a rebuilding every five years, most TCRT rolling stock was usually in excellent condition.

NOTES ON SOME CAR BUILDING ORDERS:

Car 1449, built 12-10-10, was possibly last car built with hinge door to motorman's cab. However, data sheets show hinge door on cars through 1481. A definite new order began with car 1450, which was first car with a sliding motorman's door (actually designed as front exit with folding steps—probably only such car).

1911 BUILDING: 36 cars for TCRT: 1450-1485, GE 216 motors. Possibly should be considered as 35 standards and 1 experimental (1450). They had been working a long time on designing a front exit and this may just possibly have been held out of an earlier order. All these built in January and February, 1911, though in mixed up car number order.

20 cars were put in service in Duluth in June and July, 1911, but these should be listed as 16 new cars built for Duluth and 4 TCRT cars sold to them (1482-1485 sold on 7-1-11). These 20 numbered Duluth 222-241. 2 incline railway cars also built for Duluth in 1911, 220-221.

1912 BUILDING: 100 cars for TCRT, a very definite group, 1482-1581. These all had sliding cab door, GE 216 motors. Cars completed from 2-3-12 to 10-1-12. 10 brand new cars built for Duluth, 242-251, in service in June and August. Then Duluth wanted 3 more cars, and 1564-1566 were sold to them on 11-13-12, becoming 252-254.

2 converted cars, 868-869, sold Duluth in 1912, rebuilt by TCRT to be double-end Highland cars 255, 256; in use January, 1913. 17 new cars were on order for TCRT, according to assignment list of 12-20-12. The two odd cars could possibly be replacements for 868-869. The 17 were to be numbered 1582-1598, to go to Nicollet Station. Then it was decided the first 3 of these cars would be numbered 1564-1566 to replace cars sold to Duluth.

1913 BUILDING: On May 16, 1913, two definite car orders in the works are mentioned. The first is for:

57 cars. This would take care of the 17 mentioned above, 1564-1566 & 1582-1595, and 40 more, 1596-1635. These cars were built from March to October, 1913.

50 cars. These were 1636-1685, built from December 1913 to February 1914.

All the new 1913 cars were to have new GE 203 motors. But to have 1564-1566 as GE 216s like other cars in their group, the 216s were removed from 1578-1581 for these cars; new 203s went on 1578-1581 and new cars 1582-1684; the newest car of all, 1685, being equipped with GE 200 motors, the newest thing turned out by GE and supposed to be a lightweight motor.

1914 BUILDING: 6 cars were built for Duluth in 1914, 257-262.

90 cars were built for TCRT, 1686-1775, from October 1914 to February 1915, all with GE 200 motors.

1915 BUILDING: Mentioned in July is an order of 17 cars, 1776-1792, to be built in 1915. Why 17 is not plain, unless it was from careful counting of expected requirements. These were built in November and December.

1916, CARS SOLD: On May 13, the four newest cars, 1789-1792, were sold to Duluth. These became 263-266, in order.

On July 3, 1713 was sold to Anoka. On July 27, four more cars were sold to Duluth: 1716, 1719, 1722, 1724. These became 267-270, not in order.

1916 BUILDING: 72 cars were to be built in 1916 and 1917. 63 would have new numbers, 1793-1855, and 9 would replace 1700s that were sold. This total order of 72 cars was to give TCRT exactly 1100 cars. 68 were built from November 1916 to February 1917, with the 1700 replacements first; the last four, 1852-1855, were finished in June 1917. All had GE 200 motors.

Meanwhile, in April 1917, experimental lightweight train 2000-2000A, was finished.

In July 1917 the company actually had assigned to stations 1100 standard type cars plus the multiple-unit car (listed as one car on assignment lists).

TAIL LIGHTS: In the early years, red lanterns were hung on the rear of cars at night, men being stationed at downtown corners to put these on cars.

In June, 1911, electric taillights were being put on the cars, all standards getting them. These operated from batteries and were used for many years.

In 1937, reflectors were authorized for 722 cars and these were all installed by October, 1938. Taillight batteries were then removed.

In 1927, an air-operated stop sign was tried out on 1391 at North Side.

WHEELS: 33" wheels were standard up to 1910; thereafter 34" wheels were placed on all standard cars. (Note of August 1911 tells of wheels changed from 33" standard cast wheels to new 34" rolled steel wheels, on many 1100s and 1200s up through 1287.)

All lightweights had 26" wheels (Davis wheels). 28" wheels were tested on 2023 late in 1937.

PCCs all have 25" Carnegie super-resilient wheels.

FLOORS: Floors of all standard and lightweight cars were of oak. Car 1360 was equipped with a mastic floor (a cement-like compound over the wood) on November 30, 1932. At about the same time, as an experiment, car 1614 was given a mastic floor except for its front platform; this floor added 2,000 pounds to the weight of the car and was therefore removed later and not so installed in other cars.

The mastic flooring was then installed on the rear platform of all cars in service. Later, cars rebuilt to one-man were given mastic front platform floors.

None of the lightweights ever got mastic floors.

INTERIORS: Interior woodwork of all the standard cars was of birch, with a cherry finish.

In 1930 this was changed to a natural wood finish; all front exit and one-man cars were so refinished. The first car so refinished, 1495, on July 19, 1930, was specially transferred from Snelling Station to East Side Station for use on Hennepin Ave. so that Mr. Lowry and Mr. McGill could easily inspect it; this car then stayed at East Side several years, the lone 1400 there.

The few metal surfaces in the cars, such as back-up control box and the switch box on one-man cars (out of sight of passengers), were painted to resemble wood surfaces.

Ceilings were repainted after 1935; some became ivory, others white, with white eventually becoming standard. First done were 1385 (Ivory) on August 1, 1935, and 1509 (white) on September 28, 1935.

EXTERIOR PAINT SCHEME: Body, yellow; medium brown trim above floor line. Roof and window sash, tuscan red. Trim and equipment below floor line, grass green. Rear gates, grass green. Front cab door, yellow.

Numbers were painted in silver with silver striping around car, until 1920. Thereafter striping was discontinued and numbers painted medium brown.

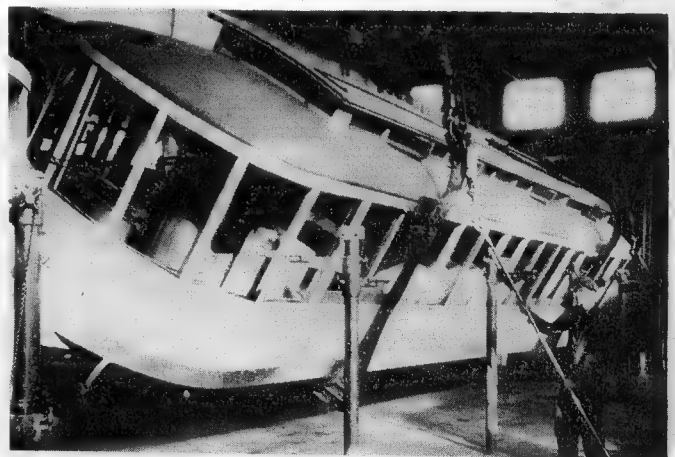
Front exit doors were first painted grass green when installed; thereafter, front cab doors not so rebuilt were also painted green.

Doors of standard one-man cars, yellow.

Doors of lightweight cars were finished in natural wood color until 1948; thereafter all painted yellow.



Experimental car 1450 on Snelling transfer table, 1911. Note sliding door and folding steps at front end. The innovation proved to be a failure; the step mechanism tended to freeze up in extremely cold weather and it was soon removed. However the sliding door was retained in 1450-1855 for motorman's use.



A standard front-exit car undergoes rehabilitation at Snelling.

INTERURBANS

PCC color scheme was same as one-man cars except for dark green roof.

Black, red and gold "Twin City Lines" decals were placed on the PCCs as they arrived from 1947 on, and thereafter on lightweight cars and steel side cars as they were rehabilitated or repainted.

TROLLEYS: In 1918 a trolley shoe was tested on at least one car, 1760, but was not found satisfactory.

Four-inch trolley wheels were used on the earlier cars and at least through car 1265 and possibly higher. Then TCRT began to make its own seven-inch trolley wheels and some of the older cars were equipped with these; Stillwater cars were being changed early in 1910. Some data sheets indicate cars back at least to 1007 got 7" wheels.

In season, ice scrapers were carried on the cars, to be fitted around the trolley wheel to break ice off the wires.

Retrievers were being put on cars in 1914, if not earlier; some 1200s and 1300s were getting them then. In 1927, Knutson retrievers were being put on cars with some being ordered for many 1000s but not for some 1100s or 1200s. Final retriever installations were made in July 1929 on regular Bryn Mawr cars 985-990.

PCCs all had trolley catchers.

FARE REGISTERS & FAREBOXES: Fare registers were originally carried mounted in the front of the car in full view of everyone, with cords running the length of the car. About 1918 they were moved to the rear; this was about the time the PAYE system was being adopted, line by line. For some time, conductors had to continue ringing fares on the register even while the farebox was in use. Unused for many years, registers were finally removed from all cars (except Intercampus) in 1938.

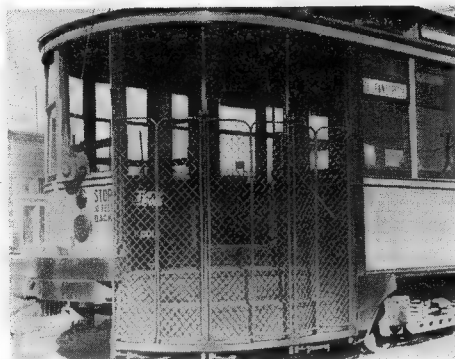
INTERIOR LIGHTING: Older standard cars had 36-watt Mazda bulbs. Later standard cars and the lightweights used 23-watt bulbs of clear glass.

On gatecars these were arranged in four series: two series of five lights each along each side of the car, giving individual lighting for each double seat; one series of two lights illuminating each side sign and one light above the front steps; and a series of two lights illuminating the front sign, one above the farebox, and two on the rear platform.

Gatecars had 94-watt headlights and 8-watt taillights. The 2000s had 23-watt lamps in the body and sign boxes, 72-watt headlights.

In 1932, cars rebuilt got nine 56-watt lamps in carbody and a 56-watt headlight. Earlier one-man cars were changed to conform to this pattern. 2000s rebuilt 1932 also got ten 56-watt bulbs; one headlight, one in front sign box, seven in car body, and one on rear platform. Holophane shade reflectors and shade holders were put on all bulbs in these cars; in the 2000s these replaced older ornamental sign boxes.

In 1937 the standard one-man car lighting was again changed, 534 cars being changed by 1939. 56-watt lamps were kept in the car, arranged in two series, four light each (alternate lights on opposite series); these two series connected with a 94-watt headlight which dimmed if either series went out. An additional circuit of five 15-watt bulbs was installed, one for the farebox, one for the taillight, three in the "Enter" sign. At this time all light shades were removed from the cars.



GATES: Early electric cars had small gates on the pole side to prevent passengers from boarding or alighting on that side. On double-end cars, these gates were changed to opposite side at end of line.

TCRT developed its own distinctive gate system in 1894. Riders had been used to jumping safely on and off moving horsecars, and could not seem to realize that it was dangerous to do the same on the faster-moving electric cars. A tremendous number of boarding and alighting accidents in the early 1890s was stopped by the installation at the rear entrance of all closed cars a pair of folding gates under the control of the motorman. The motorman was to shut and lock the gates before starting, and was not to unlock them until car came to full halt.

From these gates comes the term, "gate side" of a car, as opposed to the "pole side" (the side closest to trolley poles, then set in the center of street). These terms continued in use and are even applied to PCCs, and are used in designating many things on the cars, such as "gate sign" and "pole sign."

Standard cars built through 1902 got a single pair of rear gates; these were cars 737-949, and Duluth's 151-162.

In 1903, double gates were tried out on 950 and 951, though the rear platform was no larger than on older cars. Then platforms on new building were lengthened from 5' to 6' and double gates were put on cars 952-1309, and Duluth 163-203. When the new double entrances had proved their worth, it was announced that they would be put on all Minneapolis cars. These cars actually had double gates replacing single ones: 737-788, 817-831, 868-904, 942-949, and Duluth 151-156. Retaining the single pair were: 789-816, 832-867, 905-941, and Duluth 157-162.

From 1908 on, cars were built with triple rear gates (1310-1855). All standard front exit gatecars had these triple gates except train cars 1600-1625. Double gate cars 1254 and 1266-1309 got them when they were rebuilt to front exit cars in 1928. Train cars 1600-1625 had to be changed from triple gates to double gates as the third gate would not clear the trailer on curves.

Cars could not pull up close behind the triple gate cars as the fender of the following car would strike the gate rods and pop the last gate out of its sockets. At East Side Station, where cars were backed in bumper to bumper, car fenders were unhooked and lowered to the tracks on the gate side.

The rear opening of triple gate cars was on the curved part of the rear vestibule, and motormen could not see in their mirrors anyone boarding or alighting through that third gate.

DOORS: Bulkhead Doors (between car body & platforms):

Rear Bulkhead Doors: Single sliding door, 3'11" x 6'2 1/2" on cars 737-788, 797-867 and 900-949.

Rear Bulkhead Doors: Single sliding door, 2'11 1/2" x 6'11 3/4" on cars 868-899.

Rear Bulkhead Doors: Double sliding doors, 3'10" x 6'2". Cars 950-1855.

These double sliding doors were put in all cars rebuilt to front exit, but when cars were rebuilt to one-man, bulkhead doors were removed.

Front Bulkhead Doors: Cars 737-788, 797-949, None; only entrance to front cab from car body was by lowering bulkhead window. Cars 950-1855: single sliding door, 2'6" x 6'2". Rebuilt in front exit cars; replaced by single hinged door between cab and front step passageway. No bulkhead doors in cars rebuilt to one-man. Doors of 950-1144 opened to gateside, 1145 up to poleside.

Front Vestibule Doors: (Standard cars)

Narrow hinged door: 22" x 5'7"; on cars 737-788, 797-867, 900-951.

Narrow hinged door: 22 1/2" x 5'7"; on cars 868-899.

Wider hinged door: 2'9" x 5'7"; on cars 952-1449, 1451-1485.

Sliding door, experimental: folding steps, used as front exit for short while. Some trouble with freezing up; on car 1450.

Sliding door: 2'9" x 5'7"; on cars 1482-1855.

Narrow Folding Front Exit Doors: Single passenger width; installed on 590 standard front exit gatecars, 1920-1928; also on trailer cars 200-225, train motor car 2000. Installed on ex-suburban Campus cars 1146-1149 in 1938. Installed at both front and rear of double-end car 1230 in 1931.

Single width folding doors on lightweight cars 1-4, front and rear.

Double Width Folding Doors, Front and Rear: On all lightweight 2000s except as noted below; on all standards rebuilt to one-man; on all PCCs, but doors extra wide.

Triple Width Folding Doors: On train 2000-2000A as built; triple doors at rear of 2000, and at front of 2000A (which had no rear doors); later rebuilt to standard double doors. Train cars 2002 and 2003 had narrow front exit doors, double rear entrance doors.

BRAKES: TCRT cars used hand brakes until January 1901, when the first experiments with air brakes were made. In October 1902 magnetic track brakes were tried and called successful, but were soon dropped. First group of cars built with air brakes was the 900-series in 1902; in 1903 and thereafter, all older large cars were equipped.

Cars 1-4 had drum brakes; 2000-2030 & the 200-series trailers had band brakes.

SHEATHING: Sides and ends, all standards: 9/16" x 2 1/2" whitewood.

Steel sheathing (1/16" steel) was put on 287 one-man cars from 1938 to 1950, the cars being any on which most of the wainscoting was found to be rotting. Car numbers ranged from 1166 to 1854.

The first two steel side cars were 1724 and 1759, equipped in 1938. The end panels on 1724 did not then cover anti-climbers, but did on all other cars, giving the ends a sloping, somewhat streamlined appearance. On three cars done in 1939 (1543, 1570 and 1834) all rivets were puttied up and painted over, making panels appear as smooth as siding on the lightweight cars. This made it too hard to remove the sections, however, and 1543 and 1570 were changed in 1944 and 1949 respectively.

Siding of all the lightweight cars was of Masonite board.

ROOFS: All car roofs were canvas over whitewood (except PCCs). All 1234 standards had deck roofs, as did lightweights 2000 and 2001. 2002 and 2003 had high arch roofs (dome roofs) and other lightweights had the regular arch roof.

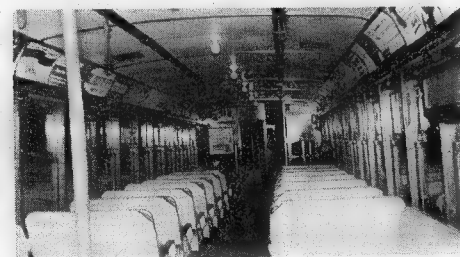
HEAD LIGHTS: Many different types of head lights were used. Around 1910, enough cars were being fitted with arc headlights for all night run cars on all lines to have them. Arc headlights remained in use the longest on the suburban cars. Many headlights were manufactured by TCRT. New Golden Glow headlights were first being installed in December, 1920.

PASSENGER SIGNALS: Electric push buttons, 28 in most gatecars.

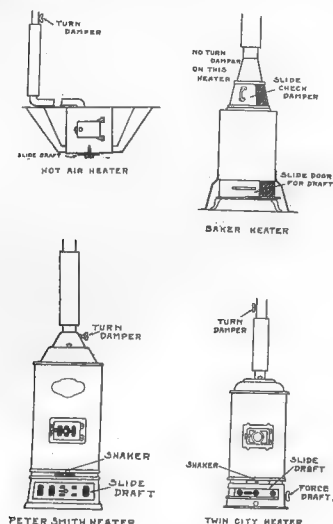
A button was on each window post, and four on rear platform.

One-man cars had electric buzzer buttons on rear platforms.

PCCs had electric buzzer cords.



Interior of 2006, showing lighting.

CAR HEATERS:

CAR HEATING: The following cars had hot-water heaters of the make listed:

- 737-1290 Baker heaters
- 1291-1685 Peter Smith heaters
- 1686-1855 TCRT heaters
- 2000-2000A TCRT heaters

These heaters were located in the motor-man's cab. Extra coal was kept in several buckets in the front cab, and supplies were obtained from coal boxes at ends of lines.

Hot air heaters were built and installed on cars rebuilt to front exit from 1920 to 1924. Stoves were located beneath the center of the car, with heat ducts along both sides of the interior, terminating in up-right pipes behind the first longitudinal seat on each side. Stovepipe and chimney were on the gateside at the rear. Extra coal was carried in a large box beside the stove.

Fires were usually started around November first, and kept burning until early in April; they were not supposed to go out all winter.

These hot air heaters were retained (or newly installed) on all one-man cars not electrically heated. In these cars, electric strip heaters were installed on both platforms.

Electric heat: Trailers 200-225 were heated entirely by Chromolax strip heaters. About this time, 1613 was converted to electric heat; the resistor was placed in the stove, and its heat conveyed along the left side of the car.

Lightweights 2002-2030 and 1-4 were built with electric and resistor heating, and 2000 and 2001 were so equipped later.

64 cars rebuilt to front exit in 1928-1254, 1266-1328---were then given electric heating to replace the hot water cab stove. Resistors were enclosed beneath the car and their heat piped along the right side, with electric strip heaters beneath all seats on the left side. The first standard one-man car, 1854, was also so equipped in 1931, as were 1129 and the six one-man Jackson St. cars in 1932.

In 1931, automatic thermostatic control equipment was bought and installed for the electric heaters of 100 cars: 2-4, 1254, 1266-1328, 1613, 1854, 2000-2030. These were disconnected in the late 1930s and removed in 1942.

Electric heat cars rebuilt to one-man (1293-1328) have undoubtedly run up far more mileage than any other cars on the system.

PCCs are heated chiefly by rheostat heat with some auxiliary electric heat. Thermostats were set for 55 degrees.

SEATING ARRANGEMENTS: Standard city cars as built seated 48; longitudinal benches at rear seated ten each, 7 rows of double cross seats at front totaled 28 seats.

Short cars 868-899 had six rows of double cross seats; capacity 40.

Front exit cars rebuilt 1920-1924 had 3 rows of double seats removed, replaced by benches seating 5 each. This provided more standing room near front exit.

Front exit cars rebuilt 1928 (cars 1254, 1266-1328): these improved cars again had 7 rows of cross seats at center of car with benches at front and rear.

All other front exit cars (526 cars) had their seating changed to correspond to 1254.

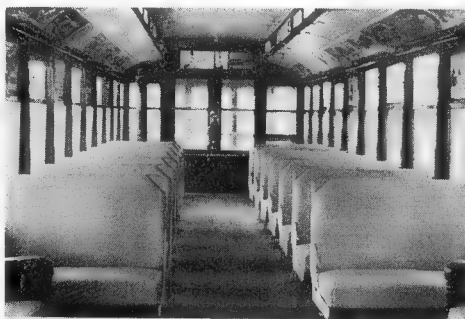
Lightweight cars had same arrangement as 1254 and had in addition a single seat on the pole side of the front platform just behind the motorman.

Of the double-end cars, only 1129 and 3 had reversible seats. #4 had longitudinal benches, front to rear.

Trailers 200-226 had longitudinal seats and circular seats around front platform, giving them a capacity of 57. In 1929 and 1930 ten trailers intended to be kept in permanent train use (200-208, 210) were equipped with seven rows of cross seats arranged similarly to those in 1254.

High-speed suburban cars and some 940-series cars used in early years on sight-seeing trips, had cross seats throughout. Capacity was 50, with single seats in the last row to facilitate entrance through the bulkhead doors.

PCC 299 came with the Pittsburgh seating arrangement: longitudinal seating between front and center doors, both sides, and cross seats at rear. 300-439 had cross seats only, with single seats forward on gateside to provide more standing room. One-man PCCs (340-439) seat 55; two-man PCCs (300-339) seat 53, the center double seat opposite center doors being replaced by the conductor's position. His seat, when not used, was raised against seat back by means of a spring, so passengers would not take it while conductor was standing.



Standard gatecar interior in recent years; seven rows of cross seats, benches front & rear, both sides.

WHISTLES: The first TCRT-built cars had "peanut" whistles. All later got larger, deeper-toned whistles, with several different types having been used.

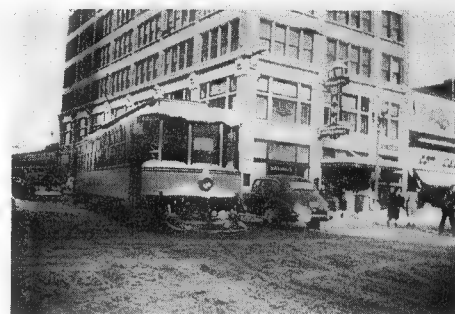
A Westinghouse pneumatic horn was put on 1265 in January 1931 and shortly after 23 more suburban cars got this horn.

Whistles were mounted on the roof and operated by a pull-cord for right hand operation on all gatecars. These were moved for left hand operation on one-man cars, as the motorman had to keep his hand on the brake valve. In 1932 and 1933, foot levers for operating the whistle were installed on cars 2000-2030.

PCCs had electric horns, in addition to the standard electric warning gong.

Car Mileage by Divisions, 1909 & 1910:

East Side	5,914,720	6,872,097
31st St.	2,785,447	3,581,680
Bloomington	1,414,846	1,516,328
Snelling	8,821,139	7,931,762
E. 7th St.	2,550,834	2,576,682
Stillwater IU	760,466	785,452
Owen St.	167,537	177,421



1442, a Chicago Ave. car, southbound on 8th, crossing Hennepin on one of Minneapolis' coldest days. (CS)

CONTROLLERS: Controllers were often changed from car to car, especially when cars were in for rehabilitation. Only a general listing will be made:

K-6 controllers were used in 607-626 and in standard cars generally to about 950. At one time were used also in 1135-1144. K-6s were generally used with GE 67 motors and older types.

K-11 controllers were used on many cars not built by TCRT.

K-14s were used on work cars.

K-28 controllers came into use somewhere in the 900 series of cars, generally used with GE 70 motors. Some rebuilt for small lightweights 1-4.

K-35 controllers were bought second-hand for all 81 old standards (which had K-28), rebuilt to one-man from 1935 to 1937.

K-37s were introduced with GE 213 and GE 216 motors, although some were installed on 775-785 (original Stillwater cars) with 57s.

K-43s probably came in with GE 203 and GE 200 motors and were generally used with these motors although often found on other-motored cars. Also used on train car 2000 originally.

C6 Type M used with high speed GE 73 motors on suburban cars and snow plows in season; this equipment was interchanged with K-37 controllers and 216 motors.

K-65s used in 2002-2003 at one time; replaced by K-75s.

K-67 used in 2004 and 2005.

K-75 used in 2006-2030.

AIR CYLINDERS: Old 700s, 800s, 900s listed with 8-inch air cylinder, possibly not the original installation. Many of these were rebuilt to 10-inch.

1000s and up to 1855 listed with one 10-inch cylinder, except 1145 (double-deck) had a 12-inch.

1329-1854, perhaps when rebuilt to front exit, got two air cylinders replacing the one 10-inch; two 6-inch on newer (lighter) cars, two 7-inch on others. In 1927 these were changed with the six-inch cylinders being scrapped, replaced by 7-inch, which came from older cars which got 7½-inch cylinders. In the 1930s, two 8½-inch cylinders were installed on 1329-1854 and eleven 1200s rebuilt to one-man.

A single 10-inch cylinder was always retained on 1254, 1266-1328.

One 6-inch cylinder on 1-4; one 7-inch balanced cylinder on 2000-2030.



Cab of 1136, showing stove and controller.

GE 213 motor:

- Max. rate acceleration 2.3 mph/ps
- Max. rate of deceleration, 2.75 mph/ps
- Av. rate of acceleration, 1.9-2.0 mph/ps
- Acceleration consumption current, 75 amp.

HOW TO BUILD A STREET CAR

General: Length over bumpers 46'9 5/8"
 " " body 33'9 1/8"
 Width Overall 9'2 1/2"
 Width inside 8'2"
 Height, floor to ceiling 7'9 1/2"
 Height, rail to trolley board 11'6"
 Height, rail to top of trolley base 12'3"
 Truck centers 23'0"
 Distance, rail to floor 3'4"

Framing: Side sills: 22" x 1 1/2" plate, reinforced with 1/2" x 3 1/2" x 3 1/2" angles.
 End sills: Rear, two 8" channels; front, two 8" channels.
 Center posts: Ash
 End posts: Ash

Vestibule & Platforms: Length: 5'2 1/2"
 Length over bumpers: 6'6 1/2"
 Drop platform: 8"
 Bumper: 9" x 13" steel and oak
 Hand rail: 3/4" x 5'4" brass tubing, three cast brass sockets

Sheathing: Sides & ends: 9/16" x 2 1/2" whitewood

Roof: Canvas over whitewood

Windows: Body: Side sash: 26 drop, 28 1/2" x 27 3/4"; 26 fixed, 28 1/2" x 17"
 End sash: 1 drop, 33" x 27 3/4"; 1 fixed, 33" x 17"; 1 fixed, 32" x 42"; two fixed, 22" x 43"; two removable, 21 1/2" x 42"; storm sash, 26, 29" x 43 1/2".

Front vestibule:
 Side sash: One drop, 30" x 27 3/4"; one fixed, 30" x 17"
 End sash: One drop, 29 1/2" x 27 3/4"; one drop, 29 1/2" x 17"; three drop, 25" x 27 3/4"; three drop, 25" x 17"; one drop, 21" x 21"; one drop, 21" x 24" storm sash, three 26" x 43"; two 30 1/2" x 43 1/2"

Rear Vestibule:
 Side sash: One drop, 30" x 27 3/4"; one fixed, 30" x 17"
 End sash: One drop, 30" x 27 3/4"; one drop, 30" x 17"; two drop, 25" x 27 3/4"; two drop, 25" x 17"
 Window guards: 3/8" brass tube; four 21", eight 25", four 29" and two 30"; cast brass sockets

Monitor sash:
 Side: twenty-two 7" x 27 1/2", Florentine glass
 End: Two, 7" x 53" (one red, one clear)

Doors: Rear: One, 4'4" x 6'2 1/2", double sliding
 Front: One, 2'6 3/4" x 6'1 3/4", single sliding
 Vestibule: One, 2'9 1/2" x 5'9 1/2", single hinged

Gates: Two pair, opening 33" each

Floor: Oak

Interior Wood Work: Birch

Seats: Cross: 24, 16 1/2" x 2'11 1/2"; 2, 16 1/2" x 18"
 Material, rattan; seating capacity, 50;
 Width of aisle, 27 1/2"

Curtains: Woolen terry

Steps: Two 10" steel hanger, corrugated steel treads;
 Height, rail to first step: 12"

Signals: Gong: One, 12" diameter; conductor's bells: two 4 1/8" diameter; 28 electric push buttons

Lights: 19, 36-watt Mazda

Typical Costs: (as of date built)

	High speed car	City car (1136 type)
Body	\$3289.00	\$3167.00
Trucks	1050.00 B #4	910.00 B #1
Motor & Controller	4675.00 GE 73 C-6-M	2200.00 GE 70 K-28
Air brakes	293.25 CP-21	308.25 AA-1
	\$9307.25	\$6585.25

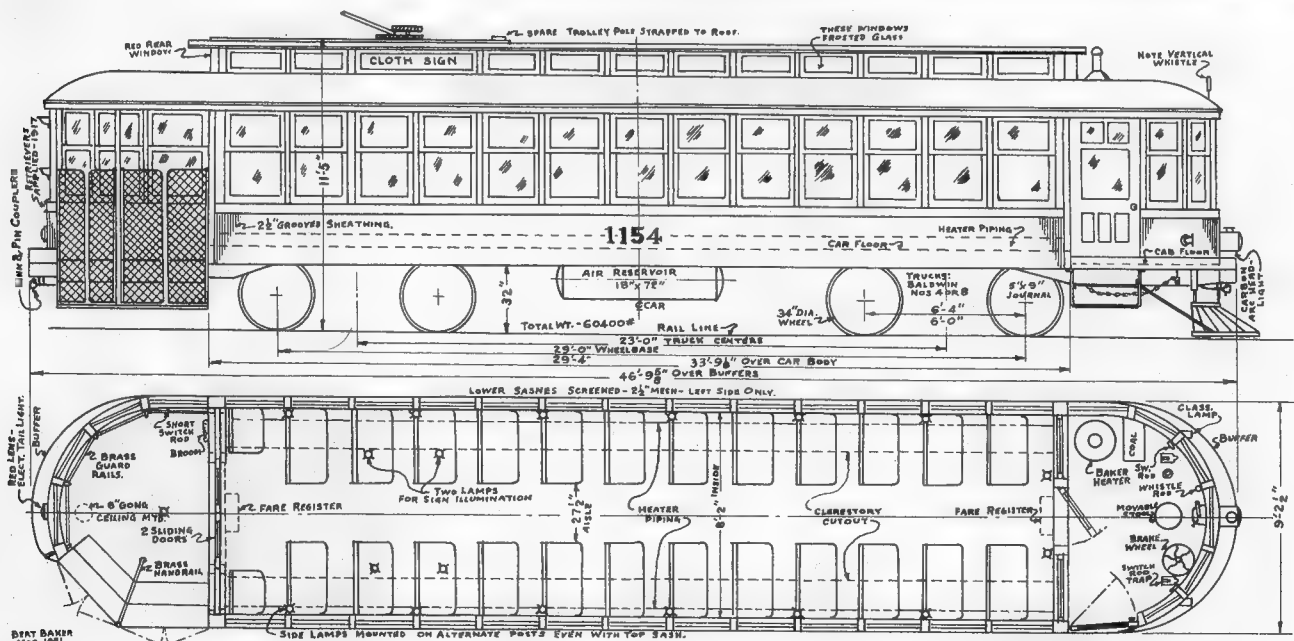
Other Costs: (previous to 1916)

Twin City #6 trucks:	\$850.00
" " #8 "	800.00
" " #9 "	800.00

GE 213 or 216 motors with K-37 controller: \$2310.00

Miscellaneous notes from a 1910 TCRT car roster list somewhat similar prices for new cars built in 1909 and 1910. To quote from this roster:
 "Equipment construction year 1909, 57 new cars at \$6,000 each, track grinder, three snow plows.
 "Equipment construction year 1910, 75 new cars at \$6,000 each, 74 trucks, 36 steel underframes."

(The above specifications are for car 1145. Details were generally similar for all of TCRT's standard cars.)



EARLY ELECTRIC CARS 200-736 1305-1627

EARLY ELECTRIC CARS: With the introduction of electric cars, two-man crews were retained, but overhead fare registers were put into use. The cars at first were operated double end and used a walk-around trolley pole. The closed cars had open platforms at each end, with steps on both sides. The open cars had benches running the entire width of the car, with continuous footboards lengthwise on the sides. After 1892 the open cars had aisles down the center, some retaining footboards, while the others had only rear entrances. In October 1893 the company was making alterations in the arrangement of the electrical equipment on the cars, so that trucks could be conveniently changed from closed to open bodies and vice versa. In August 1894 the installation of wire mesh guards on the left-hand side of the cars was begun, and in October of the same year the wooden steps were replaced with ones of metal grating.

Accustomed to the slow-moving horse cars, many people became quite confused with the faster-moving electric cars. Several accidents occurred involving persons who did not realize the danger of boarding the fast cars while they were in motion.

In July 1894 the Supreme Court upheld the Legislature on the enactment in 1892 of a law requiring vestibules on all cars during the winter months. It was pointed out that the motormen were less able to perform their duties safely on open platforms

in severe weather, and the company lost its fight against the bill.

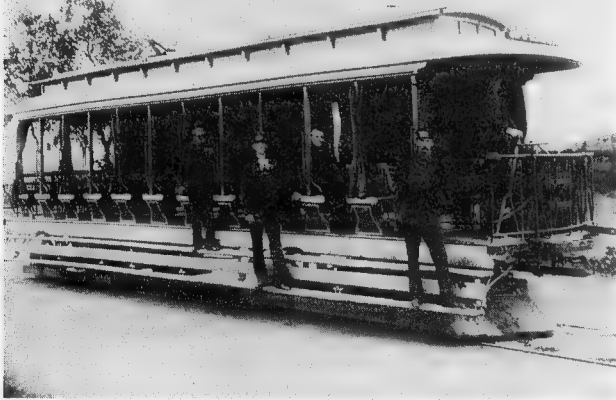
In 1895 an arrangement of wire gates was introduced. On closed cars this consisted of folding gates over the steps at the rear of single-end cars, plus straight wire guards at the other three corners from the bottom step to the letter board. On some cars the front platform was completely enclosed in compliance with the 1894 law. On double-end cars the right rear step was left open, and at the end of a line the wire guard at the left front step was detached therefrom and fastened over the right rear step. The car was then ready to proceed in the other direction. On single-end open cars folding gates were installed over the rear step, with a telescoping gate at the right side of the front platform. A wire screen on the footboard side extended from the bench seat halfway to the letterboard, while on the left side a full-length screen was used. On double-end open cars the system was the same except that full-length screens were used on both sides, with folding gates at the right rear and left front steps, plus the motorman's sliding gate at the other corners.

The first electric cars had destination signs similar to those used on the horse cars, namely, suitably lettered boards on both sides of the roof and at the front. Colored lamps under the roof were used at night for a short period, but were discontinued after proving unsatisfactory. In

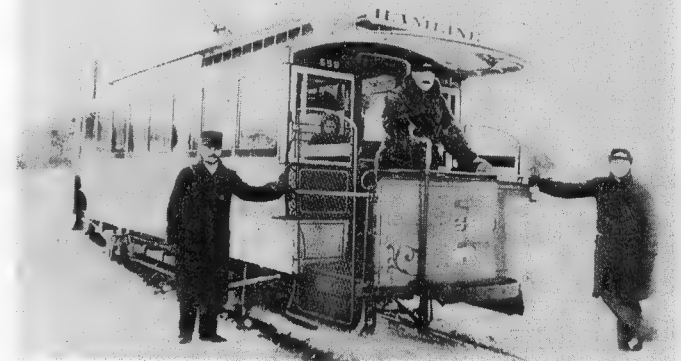
March 1892 a plan was devised to have all cars carry a small brass box having colored glass sides and a light within. Later the board signs were still used at the sides of the roof, but with fixed glass signs in the front of the clerestory using white letters on a black background. An improved type of board sign was subsequently developed, having a five-sided horizontal post which could be revolved as needed.

The unusually cold winters of the Twin Cities made it mandatory to have a carbody of heavy, well-insulated construction. It is clear that TCRT was dissatisfied with every type of car it purchased, for most were rebuilt or modified in its Nicollet Shops. After rebuilding its 1892 Northern, TCRT decided to build new a pair of cars in which all its own ideas for a suitable car for the Twin Cities should be incorporated. Company records are incomplete, but fragmentary evidence points to cars 735 and 736 as being the "guinea pigs." Thereafter, as the following pages show, TCRT embarked on a car-building program which saw hundreds of its new standard type of car constructed in the Nicollet and the Snelling Shops. As each year's program of new car building was accomplished, earlier cars shown in the roster below were retired, although one was sold to the Charles City Western Railway of Iowa and served for many years as CCW #52.

While incomplete, the roster below is the best that can be worked out from the records remaining in TCRT files.



TCRT's largest open cars were 540-551, built by Northern Car Company in 1892. They were used chiefly in Minneapolis.



Typical of the TCRT closed single-truckers is car 559, shown above in service on the Hamline route in St. Paul in 1896.

CARS	BUILT	BUILDER	TYPE	LENGTH	REMARKS	SCRAPPED or SOLD
200-235 (30)	1888	Laclede	ST Open Trailers	--	2 Rblt	1905-12
236-245 (9)	1890	"	" " "	--	to Flats	1905-12
202-232 (22)	1888	Pullman	" " "	--	(A)	1904-08
233-262 (26)	1888	Jones	" " "	--	(A)	1904-08
284 (1)	1891	Jones	" Closed Motor		Rebuilt	1912
303-316 (8)	1888	Laclede	ST Closed Trailers		(%)	1908-11
322-323 (2)	1891	"	" " "			1908-11
331-358 (15)	1891	"	ST Closed Motors	18'		1906-11
363-389 (19)	1891	"	" " "	"		1906-11
390-421 (13)	1891	"	" " "	"		1906-11
423-442 (13)	1891	R & M	" Open Trailers	24'		1908-12
443-501 (50)	1891	Jones	" Closed Motors	18'	Single	1905-12
503-531 (5)	1891	Northern	" " "	"	Rear	1908-12
536-538 (3)	1891	"	" " "	"	Gate	1911
540-551 (11)	1892	"	DT Open Motors	36'		1913
567-569 (3)	1892	B & W	ST Closed	18'	Rebuilt	1910
570-594 (22)	1892	Jones	" " "	"		1905-12
608-623 (*)	1892	American	DT " "	42'6"	(%)	1914-16
627-691 (*)	1893	"	ST Open	27'		1905-12
707-731 (*)	1893	"	DT " "	41'7"		1913
732-734 (*)	1896	Pullman	DT Closed	44'10"	SRG	1911
735-736 (*)	1898	(Believed pilot models for 737-761)	" " "	"		----
1305-1361 (11)	1890	Laclede	ST Open Motors	26'		1911-12
1364-1369 (3)	1891	"	" Closed	"	SRG	1908-12
1505-1539 (6)	1891	Stephenson	" " "	18'	SRG @	1906-12
1570-1627 (47)	1893	Laclede	" Open	28'		1906-12

Numbers in parentheses following the car numbers indicate total cars in this series still in service as of 1904. Other cars in same series were scrapped before 1904, and records destroyed.

* - Indicates all cars accounted for.

% - Body of 305 converted to waiting room at Invergrove in 1908.

¢ - 621 sold to Charles City Western Ry. in 1915, becoming CCW #52.

ST - Single truck; DT - Double truck.

SRG - Single rear gate.

A - Duplicate numbers of Pullman-built cars were given suffix "A".

R & M - Robinson & Moan

B & W - Brownell & Wright

When standard double-truck cars 1305-1577 were built from 1908 to 1912, single-truck cars in that group were renumbered to vacancies in the 500 series.

737-937

SPECIFICATIONS & EQUIPMENT

	Length	Width	Height	Seats	Cap.
737-751	43'2 1/2"	8'8 1/2"	11'5"	X & L	48
752-788	43'2 1/2"	8'8 1/2"	11'6"	X & L	48
789-796					
797-867	42'2 1/2"	8'8 1/2"	11'6"	X & L	48
868-899	37'17"	8'1 1/2"	11'6"	X & L	40
900-937	43'2 1/2"	8'8 1/2"	11'6"	Cross	48

On these two pages we deal with 737-937, not because they were a distinct class (which they weren't) but simply due to space limitations.

All these cars were constructed at TCRT's Nicollet Shops except the White Bear cars, 789-796, which were built by Pullman, 1892, for the St. Paul & White Bear Railroad, the predecessor of the Mahtomedi line.

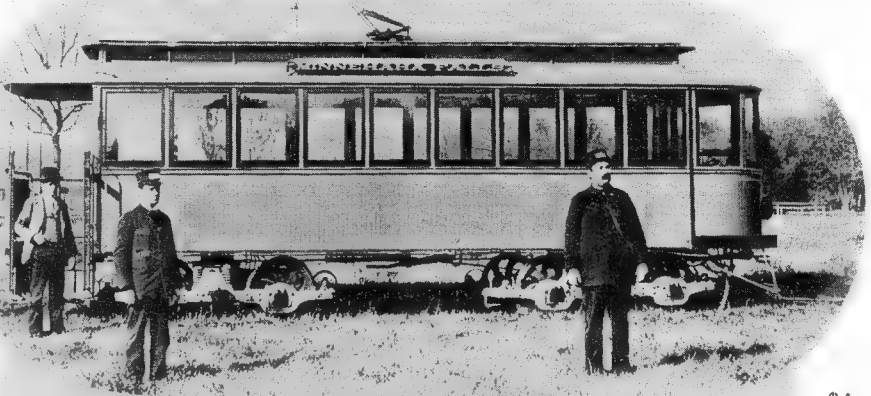
737-761: These 1898 cars were TCRT's first effort at building its own cars. Their design was probably influenced by 608-626, built 1892 by American to TCRT specifications. They had cross seats in the front section and longitudinal in the rear, giving a seating capacity of 48 and a maximum rated load of 125. A solid bulkhead separated the motorman's compartment from the passengers, the motorman entering through an inward-swinging door at the right front end, with a two-rung iron ladder below. The rear bulkhead had a single sliding door. Two fare registers were used, one in the cities and the other in suburban territory. They had drop rear platforms and gates. Equipment included Baker hot water heaters, electric tail light, Christensen air, inside-hung brakes, Brill 27-E trucks, 34" wheels, 4" trolley wheel, a GE #6 trolley base. All had wooden underframes. The first fifteen cars had Westinghouse motors, the last ten used the GE 67; all had a gear ratio of 17:64. These cars were used mostly in St. Paul. By 1921 they were pretty well worn out, but it was decided to get a few more years of service out of them by converting them to trailers; this was done in that year and they were renumbered 200-224. As trailers they were semi-permanently coupled to motor cars 1600-1624, being paired by corresponding numbers: 205 with 1605, 220 with 1620, etc. They ran as trailers on Glenwood-4th Ave. So. line in Minneapolis. The coming of one-man cars rendered these trailers unnecessary and in 1936 they were scrapped.

762-788: The 1899 output of Nicollet Shops amounted to these 27 cars. They were duplicates of the 737s in all but the trucks, TCRT having decided to build its own trucks. 762-774 used the GE 67 motor, but 775-788 had the GE 57. All had a 15:69 gear ratio. Most of these cars left the TCRT system at a comparatively early date; CA&E took four in 1913, Seattle and Tacoma bought 19 in 1918---762 became a supply car in 1925 and the three others were scrapped in 1934.

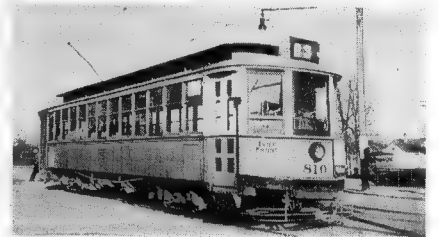
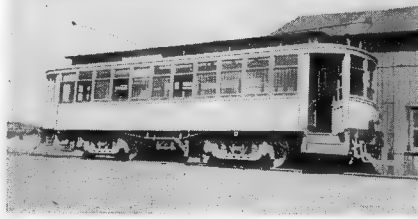
789-796: These cars were built for the line between St. Paul and Mahtomedi and ran for the independent St. Paul & White Bear Railroad until 1899 when it was absorbed by TCRT. In appearance, these cars were fairly similar to TCRT's own cars but were somewhat shorter. TCRT 868-899, built 1901, were possibly influenced by the White Bear cars, being approximately similar in dimensions. Originally the 789s had an open rear platform; TCRT modified them to the extent of putting a single gate at the rear. These cars were retired early, the last of them going in 1912.

797-867: 1900 was a busy year for Nicollet Shops and these 71 cars were the result. They were duplicates of the 737s except for having but a single rear gate, this cutting their over-all length by one foot. Many of these cars went on to serve other systems after being succeeded on TCRT by newer cars. All were gone by 1935 except for two---813 and 847---which were rebuilt into double-end cars in 1912 and 1920 respectively and lasted until 1941.

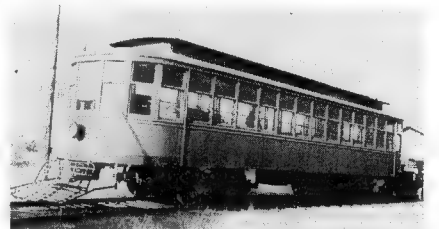
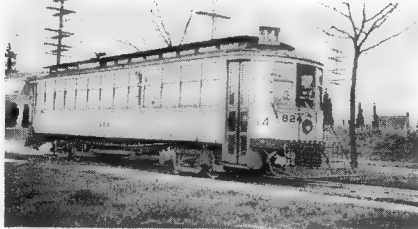
Car 793 was originally St. Paul & White Bear #5. In the photo it is mounted on Bemis trucks of 1891 design; these trucks were also used by the Pittsburgh & Birmingham Traction Company on its Gilbert Car Co. cars, and also in Buffalo.



Car 875 about 1903. Note "Fayette & Grove Park" sign, Bemis trucks, single gate (later double). 875 was double-ended in 1916.



Boomer cars from TCRT: Left above, Duluth-Superior Traction's 256 (ex-TCRT 869) at top of incline (SM Photo). Right above, Winnipeg Electric's 810, one of twenty cars (Winnipeg 800-838, even numbers only) purchased from TCRT after a 1919 car barn fire left WE short of equipment. Left below, Seattle Municipal's 824, one of 25 TCRT cars that ran to the end as Seattle's 800-824 (SM). Right below, Tacoma Municipal Belt's 2-spot; 45 TCRT surplus cars were sent to Seattle-Tacoma in 1918 by U.S. Shipping Board (BN).



868-899: Nicollet's 1901 cars were notable in that they represented a step toward a smaller, somewhat lighter car---a tendency which was to be repeated by TCRT several times. About 4 1/2' shorter than the 737s, the 868s seated but 40 and had a maximum rated load of 100. Six of these 32 "Shorties" were rebuilt into double-enders: 875 & 876 (1916 for Randolph Extension); 896 (1912 for Fort Snelling shuttle); 897, 898 and 899 (1910 for Robbinsdale and Camden extensions). The single-enders lasted until 1934, 896-898 until 1936, 875-876 until 1941.

900-949: Fifty cars comprised the output of Nicollet Shops in 1902. These incorporated a return to the dimensions of the 737s with similar seating capacity, although originally the 900s used all cross seats. Certain mechanical improvements were used on 905-949: Baldwin trucks, GE 70 motors and K28 control. All were scrapped by 1934.

TWIN CITY LINES

57

CAR	BUILT	WEIGHT	MOTORS	CONTROL	TRUCKS	DISPOSITION	DATE	CAR	BUILT	WEIGHT	MOTORS	CONTROL	TRUCKS	DISPOSITION	DATE
737	1898	45,800	WP	K6	Brill-02	Rblt to trailer	215 1921	837	1900	42,900	67	K6	Brill-01	Sold to Winnipeg	7-1-20
738	"	"	"	"	"	"	214	838	"	"	"	"	"	"	"
739	"	"	"	"	"	"	207	839	"	"	"	"	"	"	"
740	"	"	"	"	"	"	202	840	"	"	"	"	"	"	"
741	"	"	"	"	"	"	210	841	"	"	"	"	"	"	"
742	"	"	"	"	"	"	206	842	"	"	"	"	"	"	"
743	"	"	"	"	"	"	208	843	"	"	"	"	"	Scrapped	1934
744	"	"	"	"	"	"	204	844	"	"	"	"	"	Sold to Winnipeg	7-1-20
745	"	"	"	"	"	"	200	845	"	"	"	"	"	"	"
746	"	"	"	"	"	"	203	846	"	"	"	"	"	"	"
747	"	"	"	"	"	"	211	847	"	"	"	"	"	Rblt DE 1920, scrpd	1941
748	"	"	"	"	"	"	205	848	"	"	"	"	"	Sold to Winnipeg	8-15-20
749	"	"	"	"	"	"	213	849	"	"	"	"	"	"	"
750	"	"	"	"	"	"	209	850	"	"	"	"	"	"	"
751	"	"	"	"	"	"	212	851	"	"	"	"	"	"	"
752	"	44,400	67	"	"	"	216	852	"	"	"	"	"	"	"
753	"	"	"	"	"	"	217	853	"	"	"	"	"	"	"
754	"	"	"	"	"	"	218	854	1900	42,900	67	K6	Brill-01	Scrapped	1934
755	"	"	"	"	"	"	219	855	"	"	"	"	"	"	"
756	"	"	"	"	"	"	220	856	"	"	"	"	"	"	"
757	"	"	"	"	"	"	221	857	"	"	"	"	"	"	"
758	"	"	"	"	"	"	201	858	"	"	"	"	"	"	"
759	"	"	"	"	"	"	222	859	"	"	"	"	"	"	"
760	"	"	"	"	"	"	223	860	"	"	"	"	"	Destroyed by fire	1903
761	"	"	"	"	"	"	224	861	"	"	"	"	"	at Snelling yards	1925
762	1899	"	"	"	TO-#1	" to supply car #2	1922	862	"	"	"	"	"	"	"
763	"	"	"	"	"	Sold to Seattle	10-1-18	863	"	"	"	"	"	"	"
764	"	"	"	"	"	Scrapped	1934	864	"	"	"	"	"	"	"
765	"	"	"	"	"	Sold to Seattle	10-1-18	865	"	"	"	"	"	"	"
766	"	"	"	"	"	" Tacoma	7-10-18	866	"	"	"	"	"	Scrapped	1934
767	"	"	"	"	"	"	"	867	"	"	"	"	"	"	"
768	"	"	"	"	"	" Seattle	10-1-18	868	1901	40,200	"	"	Brill-02	Sold to Duluth	1912
769	"	"	"	"	"	"	"	869	"	"	"	"	"	"	"
770	"	"	"	"	"	"	"	870	"	"	"	"	"	Scrapped	1934
771	"	"	"	"	"	"	"	871	"	"	"	"	"	Burned Snelling fire	1925
772	"	"	"	"	"	"	"	872	"	"	"	"	"	"	"
773	"	"	"	"	"	"	"	873	2	"	"	"	"	"	"
774	"	"	"	"	"	"	"	874	"	"	"	"	"	"	"
775	"	47,600	57	K37	"	"	"	875	"	"	"	"	"	"	"
776	"	"	"	"	"	" Tacoma	7-10-18	876	"	"	"	"	"	Rblt DE 1916, scrapt	1941
777	"	"	"	"	"	" Seattle	10-1-18	877	"	"	"	"	"	Dest. Snelling fire	1925
778	"	"	"	"	"	" Tacoma	7-10-18	878	"	"	"	"	"	Scrapped	1934
779	"	"	"	"	"	" Seattle	10-1-18	879	"	"	"	"	"	Burnt at Snelling	1925
780	"	"	"	"	"	Scrapped	1934	880	"	"	"	"	"	Scrapped	1934
781	"	"	"	"	"	"	"	881	"	"	"	"	"	"	"
782	"	"	"	"	"	Sold to AB&C Ry	5-29-13	882	"	"	"	"	"	"	"
783	"	"	"	"	"	"	"	883	"	"	"	"	"	"	"
784	"	"	"	"	"	"	"	884	"	"	"	"	"	"	"
785	"	"	"	"	"	"	"	885	"	"	"	"	"	"	"
786	"	"	"	"	"	"	"	886	"	"	"	"	"	"	"
787	"	"	"	"	"	" Seattle	10-1-18	887	"	"	"	"	"	"	"
788	"	"	"	"	"	" Tacoma	7-10-18	888	"	"	"	"	"	"	"
789	1892	Was St. Paul & White Bear RR #1 until 1899; rebuilt to baggage car in 1906, switcher 41 in 1916	"	"	"	"	"	889	"	"	"	"	"	"	"
790	"	Was St. Paul & White Bear RR 2; scrapped	"	"	"	"	"	890	"	"	"	"	"	"	"
791	"	"	"	"	"	"	1912	891	"	"	"	"	"	"	"
792	"	"	"	"	"	"	1905	892	"	"	"	"	"	"	"
793	"	"	"	"	"	"	1905	893	"	"	"	"	"	"	"
794	"	"	"	"	"	"	1909	894	"	"	"	"	"	"	"
795	"	"	"	"	"	"	1912	895	"	"	"	"	"	"	"
796	"	"	"	"	"	"	1905	896	"	"	"	"	"	Rblt DE 1912	Scrap 1936
797	1900	44,700	67	K6	TO-#1	Sold to Seattle	10-1-18	897	"	"	"	"	"	"	"
798	"	"	"	"	"	"	"	898	"	"	"	"	"	"	"
799	"	"	"	"	"	"	"	899	"	"	"	"	"	"	"
800	"	"	"	"	"	Scrapped	1934	900	1902	42,600	"	"	"	Scrapped	1934
801	"	"	"	"	"	"	"	901	"	"	"	"	"	"	"
802	"	"	"	"	"	"	"	902	"	"	"	"	"	"	"
803	"	"	"	"	"	Sold to Seattle	10-1-18	903	"	"	"	"	"	"	"
804	"	"	"	"	"	"	"	904	"	"	"	"	"	"	"
805	"	"	"	"	"	"	"	905	1902	46,400	70	K28	Bldw-#1	Scrapped	1934
806	"	"	"	"	"	Scrapped	1934	906	"	"	"	"	"	"	"
807	"	"	"	"	"	Sold to Seattle	10-1-18	907	"	"	"	"	"	"	"
808	"	"	"	"	"	"	"	908	"	"	"	"	"	"	"
809	"	"	"	"	"	Scrapped	1934	909	"	"	"	"	"	"	"
810	"	"	"	"	"	Sold to Seattle	10-1-18	910	"	"	"	"	"	"	"
811	"	"	"	"	"	"	"	911	"	"	"	"	"	"	"
812	"	"	"	"	"	"	"	912	"	"	"	"	"	"	"
813	"	"	"	"	"	Rblt to DE 1911, Scr	1941	913	"	"	"	"	"	"	"
814	"	"	"	"	"	Scrapped	1934	914	"	"	"	"	"	"	"
815	"	"	"	"	"	"	"	915	"	"	"	"	"	"	"
816	"	"	"	"	"	"	"	916	"	"	"	"	"	"	"
817	"	44,300	WP	K6	"	Sold to Tacoma	7-10-18	917	"	"	"	"	"	"	"
818	"	"	"	"	"	"	"	918	"	"	"	"	"	"	"
819	"	"	"	"	"	"	"	919	"	"	"	"	"	"	"
820	"	"	"	"	"	"	"	920	"	"	"	"	"	"	"
821	"	"	"	"	"	"	5-20-18	921	"	"	"	"	"	"	"
822	"	"	"	"	"	"	"	922	"	"	"	"	"	"	"
823	"	"	"	"	"	"	"	923	"	"	"	"	"	"	"
824	"	"	"	"	"	"	"	924	"	"	"	"	"	"	"
825	"	"	"	"	"	"	"	925	"	"	"	"	"	"	"
826	"	"	"	"	"	"	"	926	"	"	"	"	"	"	"
827	"	"	"	"	"	"	"	927	"	"	"	"	"	"	"
828	"	"	"	"	"	"	"	928	"	"	"	"	"	"	"
829	"	"	"	"	"	"	"	929	"	"	"	"	"	"	"
830	"	"	"	"	"	"	"	930	"	"	"	"	"	"	"
831	"	"	"	"	"	"	"	931	"	"	"	"	"	"	"
832	"	42,900	67	"	Brill-01	Sold to Winnipeg	7-1-20	932	"	"	"	"	"	"	"
833	"	"	"	"	"	"	"	933	"	"	"	"	"	"	"
834	"	"	"	"	"	"	"	934	"	"	"	"	"	"	"
835	"	"	"	"	"	"	"	935	"	"	"	"	"	"	"
836	"	"	"	"	"	"	"	936	"	"	"	"	"	"	"
								937	"	"	"	"	"	"	"

*Sold to Cripple Creek Coal Co., Illinois

938-1123

SPECIFICATIONS & EQUIPMENT 938-1123

	Built	Length	Width	Height
938-949	1902	43'2 1/2"	8'8 1/2"	11'6"
950-951	1903	43'2 1/2"	8'8 1/2"	11'5"
952-991	1903	45' 2"	8'8 1/2"	11'5"
992-1087	1904	45' 2"	8'8 1/2"	11'5"
1088-1111	1905	45' 2"	8'8 1/2"	11'5"
1112-1123	1905	45'9 1/2"	8'8 1/2"	11'6"

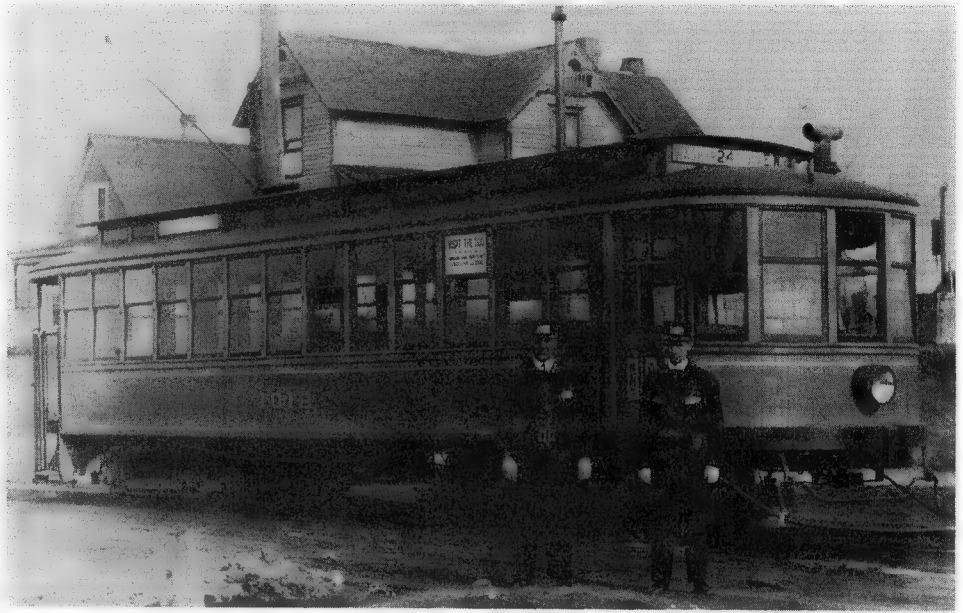
All except 938-953 had double rear bulkhead doors. All had an inward-swinging door at the right-hand side of the motor-man's vestibule, with a two-rung metal ladder below. 938-951 did not have a front bulkhead door between the passenger section and the motorman's vestibule. 938-951 and 1112-1123 had cross seats only, seating 50. 952-1111 had cross seats in the forward section and longitudinal in the rear, with a capacity of 48. All were rated at a total capacity of 125 with a maximum number of standees, but the cross-seat cars rarely carried that many.

938-1111 had wooden underframes and four-inch trolley wheels, while 1112-1123 were the first TCRT cars to have steel underframes and seven-inch trolley wheels. All had 34-inch truck wheels, and Christensen air systems. 938-1111 originally had outside-hung brakes, but 976-980 and 1007-1041 received inside-hung brakes about 1912. 1007-1041 also had their Brill trucks replaced with TC-8 at the same time. Gear ratios were 15:69 for 938-951 and 976-979, 15:71 for 955-975 and 980-1111, 24:51 for 1112-1123.

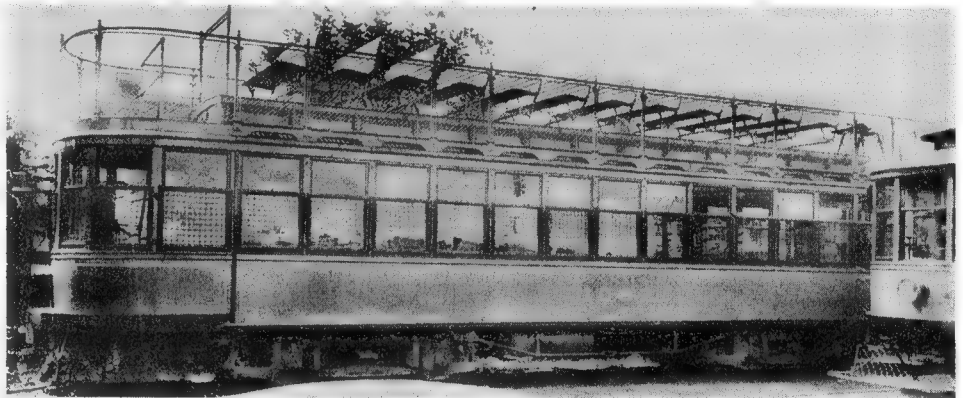
SUBURBAN CARS: The dozen cars, 1112-1123, were TCRT's first attempt to build a high-speed car for cross-country running. Built for the Stillwater line, the cars were outshopped in August, 1905. Chief differences between them and standard city cars were mechanical; bodies were identical. It is to be wondered why they were not given multiple-unit equipment; their operation in trains would have permitted major economies in labor costs as well as easing operating problems. Their combination of GE 73 motors (75 hp), 24:51 ratio, 34" steel wheels and a 6'4" Baldwin truck gave them a top speed in excess of a mile a minute, and they used it. See also cars 1145-1163 and 1255-1265.

DOUBLE-DECK CARS: In Britain double-deck cars have been operated successfully throughout virtually the entire life of the electric railway industry. On this side of the Atlantic, however, only a handful of companies experimented with the two-story cars. Among these, TCRT. Car 1092 was double-decked in a makeshift fashion in 1904. The work consisted of moving the trolley base to the extreme rear, affixing twelve four-passenger cross benches to the deck roof, installing a stairway from the front of the roof leading transversely to the front exit door, laying a walkway at either side of the benches and enclosing the superstructure by necessary posts, hand rails and screening. The car was left open to the elements, which brought about certain improvements soon thereafter: a full length framework of pipe and planks from which were hung waterproof folding curtains gave some protection from showers. This entire superstructure raised the over all height only to 16'4", and total weight to 52,000 lbs. (as against 1092's original weight of 47,300 lbs.).

Although 1092 met with only indifferent success, TCRT was convinced it was on the right track—two years later it announced the start of work on converting thirty cars to the double-deck type. The cars selected were its new suburban type (1112-1123, etc.) which with their steel underframes and much more substantial construction of side posts and wider platforms were better able to bear the weight of a more substantial upper deck than 1092 had. This 1906-model upper body was borne by a flat roof; its side panels were solid and came up to the arm rests; it had a solid roof, and protection from rain was provided by pantasote curtains along the



Car 1012 at 38th & Chicago in 1915; on Washington-24th Ave. No. line. (EHN)

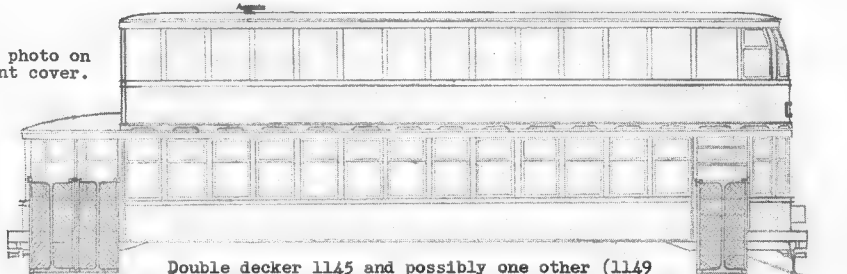


Double-decker 1092 as originally placed in service. Shortly afterward its upper deck was given additional protection by the installation of a full-length waterproof roof and side curtains. Upper deck removed in winter.

sides and glass windows at the front. The upper body came back only as far as the rear bulkhead, leaving the lower rear roof exposed. The trolley base was mounted on the upper roof. Five-passenger benches (13) were provided, with one aisle which was along the left side. This upper body was installed on car 1145, increasing its height to 16'8" and its weight by 15,000 lbs. Another car reputedly was converted as was the 1145, but company records fail to show it and no proof of its existence has been forthcoming from any other source.

The summer of 1907 saw double-deckers in service on the Lake Minnetonka line, along with standard single-deck cars. The trolley wire had to be raised to accommodate the big fellows and this worked a hardship on the standard cars. This, coupled with mediocre public enthusiasm for the upper deck idea, caused TCRT to decide that the expense involved was not justified. The upper decks of 1092 and 1145 (and the third car, if it existed) were removed for good about 1909, and TCRT thereafter contented itself with but a single deck car.

See photo on front cover.



Double decker 1145 and possibly one other (1149 or 1163?) had a more substantial upper deck.

CAR	BUILT	WEIGHT	MOTORS	CONTROL	TRUCKS	DISPOSITION	DATE
938	1902	46,400	70	K28	Blw-#1	Scrapped	1934
939	"	"	"	"	"	"	"
940	"	"	"	"	"	"	"
941	"	"	"	"	"	"	"
942	"	"	"	"	"	"	"
943	"	"	"	"	"	"	"
944	"	"	"	"	"	"	"
945	"	"	"	"	"	"	"
946	"	"	"	"	"	"	"
947	"	"	"	"	"	Burned Snelling fire	1925
948	"	"	"	"	"	Scrapped	1934
949	"	"	"	"	"	"	"
950	1903	43,700	67	K6	Brill-03	"	"
951	"	"	"	"	"	Burned at Snelling	1925
952	"	"	"	"	"	Became trailer 1590A then " 225	1916 1921
953	"	"	"	"	"	Scrapped	1934
954	"	"	"	"	"	"	"
955	"	"	"	"	"	"	"
956	"	"	"	"	"	"	"
957	"	"	"	"	"	"	"
958	"	"	"	"	"	"	"
959	"	"	"	"	"	"	"
960	"	"	"	"	"	"	"
961	1903	43,600	67	K6	Brill-03	Scrapped	1936
962	"	"	"	"	"	"	"
963	"	"	"	"	"	"	"
964	"	"	"	"	"	"	"
965	"	"	"	"	"	"	"
966	"	"	"	"	"	"	"
967	"	"	"	"	"	"	"
968	"	"	"	"	"	"	"
969	"	"	"	"	"	"	"
970	"	"	"	"	"	"	"
971	"	"	"	"	"	"	"
972	"	"	"	"	"	"	"
973	"	"	"	"	"	"	"
974	"	"	"	"	"	"	"
975	"	45,700	70	K28	Blw #1	"	"
976	"	44,600	67	K6	Brill-02	"	"
977	"	"	"	"	"	"	"
978	"	"	"	"	"	"	"
979	"	"	"	"	"	"	"
980	"	43,600	"	"	Brill-03	"	"
981	"	"	"	"	"	"	"
982	"	"	"	"	"	"	"
983	"	"	"	"	"	"	"
984	"	"	"	"	"	"	"
985	"	"	"	"	"	"	"
986	"	"	"	"	"	"	"
987	"	"	"	"	"	"	"
988	"	"	"	"	"	"	"
989	"	"	"	"	"	"	"
990	"	"	"	"	"	"	"
991	"	"	"	"	"	"	"
992	1904	47,300	70	K28	Brill-04	"	"
993	"	"	"	"	"	"	"
994	"	"	"	"	"	"	"
995	"	"	"	"	"	"	"
996	"	"	"	"	"	"	"
997	"	"	"	"	"	"	"
998	"	"	"	"	"	"	"
999	"	"	"	"	"	"	"
1000	"	"	"	"	"	"	"
1001	"	"	"	"	"	"	"
1002	"	"	"	"	"	"	"
1003	"	"	"	"	"	"	"
1004	"	"	"	"	"	"	"
1005	"	"	"	"	"	"	"
1006	"	"	"	"	"	Burned at Nicollet	1933
1007	"	"	"	"	"	Scrapped	1936
1008	"	"	"	"	"	"	"
1009	"	"	"	"	"	"	"
1010	"	"	"	"	"	"	"
1011	"	"	"	"	"	"	"
1012	"	"	"	"	"	"	"
1013	"	"	"	"	"	"	"
1014	"	"	"	"	"	"	"
1015	"	"	"	"	"	"	"
1016	1904	47,300	70	K28	Brill-04	Scrapped	

CAR	BUILT	WEIGHT	MOTORS	CONTROL	TRUCKS	DISPOSITION	DATE
1038	1904	46,700	70	K28	Baldwin #1	Scrapped	1936
1039	"	"	"	"	"	"	"
1040	"	"	"	"	"	"	"
1041	"	"	"	"	"	"	"
1042	1905	"	"	"	"	"	"
II 1043	"	"	"	"	"	(I 1043 Sold to Duluth 1905	"
1044	"	"	"	"	"	"	"
1045	"	"	"	"	"	"	"
1046	"	"	"	"	"	"	"
1047	"	"	"	"	"	"	"
1048	"	"	"	"	"	"	"
1049	"	"	"	"	"	"	"
1050	"	"	"	"	"	"	"
1051	"	"	"	"	"	"	"
1052	"	"	"	"	"	"	"
1053	"	"	"	"	"	"	"
1054	"	"	"	"	"	"	"
1055	"	"	"	"	"	"	"
1056	"	"	"	"	"	"	"
1057	"	"	"	"	"	"	"
1058	"	"	"	"	"	"	"
1059	"	"	"	"	"	"	"
1060	"	"	"	"	"	"	"
1061	"	"	"	"	"	"	"
1062	"	"	"	"	"	"	"
1063	"	"	"	"	"	"	"
1064	"	"	"	"	"	"	"
1065	"	"	"	"	"	"	"
1066	"	"	"	"	"	"	"
1067	"	"	"	"	"	"	"
1068	"	"	"	"	"	"	"
1069	"	"	"	"	"	"	"
1070	"	46,700	70	K28	Baldwin #1	Scrapped	1936
1071	"	"	"	"	"	"	"
1072	"	"	"	"	"	"	"
1073	"	"	"	"	"	"	"
1074	"	"	"	"	"	"	"
1075	"	"	"	"	"	"	"
1076	"	"	"	"	"	"	"
1077	"	"	"	"	"	"	"
1078	"	"	"	"	"	"	"
1079	"	"	"	"	"	"	"
1080	"	"	"	"	"	"	"
1081	"	"	"	"	"	"	"
1082	"	"	"	"	"	"	"
1083	"	"	"	"	"	"	"
1084	"	"	"	"	"	"	"
1085	"	"	"	"	"	"	"
1086	"	"	"	"	"	"	"
1087	"	"	"	"	"	"	"
1088	"	47,300	"	"	"	"	"
1089	"	"	"	"	"	"	"
1090	"	"	"	"	"	"	"
1091	"	"	"	"	"	"	"
1092	"	"	"	"	"	"	"
1093	"	"	"	"	"	"	"
1094	"	"	"	"	"	"	"
1095	"	"	"	"	"	"	"
1096	"	"	"	"	"	"	"
1097	"	"	"	"	"	"	"
1098	"	"	"	"	"	"	"
1099	"	"	"	"	"	"	"
1100	"	"	"	"	"	"	"
1101	"	"	"	"	"	"	"
1102	"	"	"	"	"	"	"
1103	"	"	"	"	"	"	"
1104	"	"	"	"	"	"	"
1105	"	"	"	"	"	"	"
1106	"	"	"	"	"	"	"
1107	"	"	"	"	"	"	"
1108	"	"	"	"	"	"	"
1109	"	"	"	"	"	Sold to Duluth	1906
1110	"	"	"	"	"	"	"
1111	"	"	"	"	"	"	"
1112	"	59,000	73	G6TM	Baldwin #2	Scrapped	1938
1113	"	"	"	"	"	"	"
1114	"	"	"	"	"	"	"
1115	"	"	"	"	"	Wrecked	1920
1116	"	"	"	"	"	Scrapped	1938
1117	"	"	"	"	"	"	"
1118	"	"	"	"	"	"	"
1119	"	"	"	"	"	"	"
1120	"	"	"	"	"	"	"
1121	"	"	"	"	"	"	"
1122	"	"	"	"	"	"	"
1123	"	"	"	"	"	"	"

SEE OTHER SIDE

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Continuation of 1947-48 - 1948-49		Station		46		41531		MINNEAPOLIS-ST. PAUL												AM	
Emergency								1947												P.M.	
1	2	3	4	5	6	7	8	9	10	11	12										
15	15	15	15	15	15	15	15	15	15	15	15										
30	30	30	30	30	30	30	30	30	30	30	30										
45	45	45	45	45	45	45	45	45	45	45	45										
												E.B.									
												W.B.									

1124-1327

SPECIFICATIONS & EQUIPMENT

	Built	Length	Width	Height
1124-1144	1905	45' 9 1/2"	8' 8 1/2"	11' 6"
1145-1220	1906	46' 9 1/2"	9' 2 1/2"	11' 5"
1221-1265	1906	46' 7"	9' 2 1/2"	11' 5"
1266-1287	1907	46' 7"	9' 2 1/2"	11' 5"
1288-1309	1908	46' 0"	9' 2 1/2"	11' 5"
1310-1327	1908	46' 8"	9' 2 1/2"	11' 5"

All had steel underframes. 1124-1144 had cross (transverse) seats in the forward section and longitudinal in the rear, as also did 1164-1327. 1145-1163 had all cross seats, with a capacity of 50 (the last seat on each side at the rear was only single-width). Cars of these groups that were later rebuilt with a front exit and/or air doors for one-man service, had their cross seats relocated opposite the seven central windows on each side, with longitudinal seats at each end, for a total capacity of 48. Total rated capacity including standees was 125 for 1124-1144, and 150 for 1145-1163, due to the difference in width. The rear bulkhead had a double sliding door, the front bulkhead a single one. The motorman's outside door was inward-swinging. Rear gates on 1124-1309 were double, on 1310, single. 1124-1188 had Christensen air systems, while 1189-1327 had GE systems.

Other equipment included double fare registers, Baker heaters, seven-inch trolley wheels, 34-inch truck wheels, outside-hung brakes on 1124-1142, 1164-1168, inside-hung brakes on 1143-1163, 1169-1327. Gear ratios were 15:71 on 1124-1144, 1164-1168, 1189-1285, 1289-1327; 24:51 on 1145-1163, 1255-1265; 17:69 on 1169-1188, 1286-1288. When 1254 & 1266-1327 were rebuilt with front exits they were equipped with GE-203 motors having a 16:68 gear ratio and K-43 control. On assignment to the Jackson St. line in St. Paul 1124-1133 had their bodies placed one inch off center to provide passing clearance on double track, as track centers were closer on that line than on any others. 1146-1149 received TC-6 trucks, GE-216 motors, and K-43-F2 control in 1933 for service on the Inter-Campus line. They also received a front exit and under-floor heater in 1939.

Standard cars were classified as either "fast" or "slow," depending on motors. Fast cars had GE 200, 203, 213 or 216 motors, and slow cars were equipped with GE 67s, GE 70s, or Westinghouse motors. Although motors were changed out from time to time, we can say for most of the years that "fast" cars and "slow" cars shaped up as follows:

Fast: 1166-1195, 1288-1855.
Slow: 737-1111, 1124-1144, 1164, 1165, 1196-1254, 1266-1287.

Gaps in this listing are filled by TCRT's "suburban" cars—actually interurbans in the common use of the term. These were equipped with GE 73 motors and were far-and-away the fastest cars in the Twin Cities, regularly attaining mile-a-minute speeds on the cross-country runs to Lake Minnetonka and Stillwater. These cars were: 1112-1123, 1145-1163, and 1255-1265. In spite of their high speeds, the suburban cars had standard city-car bodies and operated as single units (aside from experiments, TCRT never operated a multiple-unit electric train).

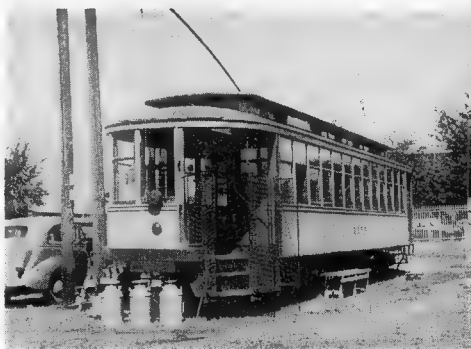
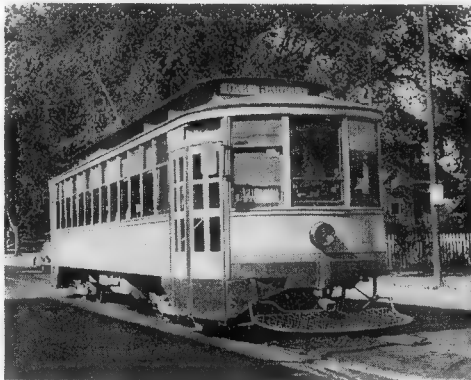
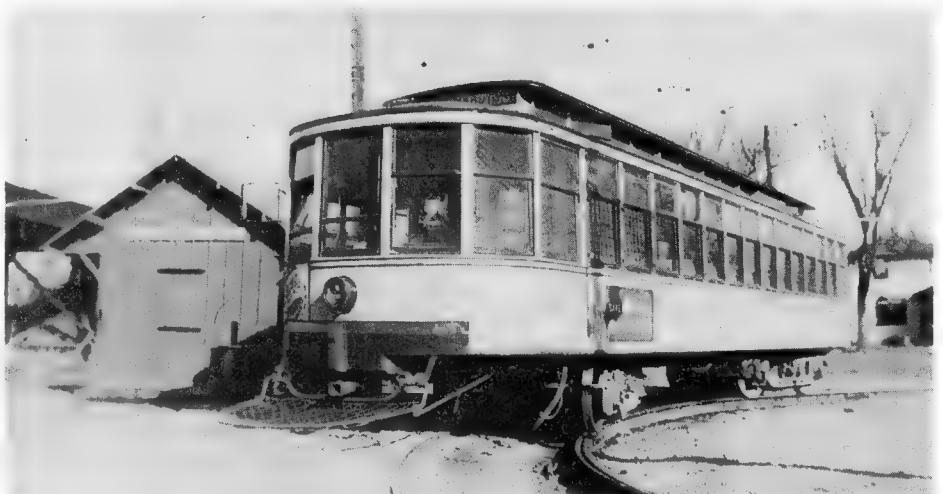
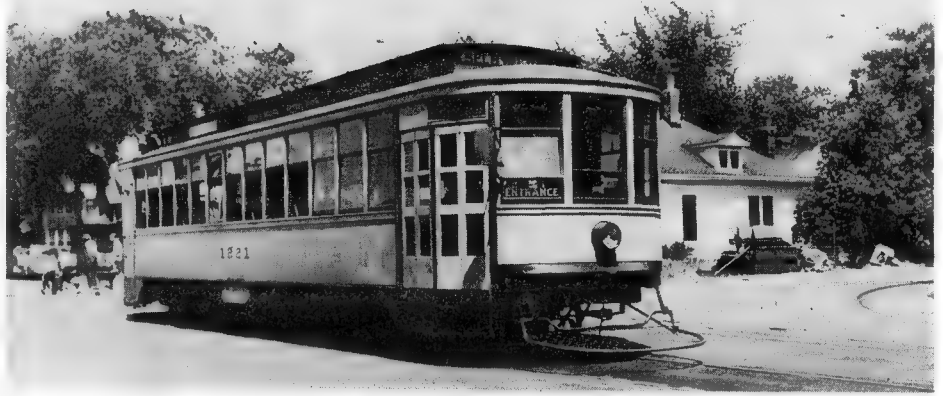
PHOTOS: Top: 1221 at west end of Selby-Lake line, Girard Ave. & Lake St., Mpls., Sept. 26, 1949. (DB)

Next: 1305 on new loop at Brookside after Hopkins line was abandoned west of that point. Photo date: Oct. 25, 1951.

Center Left: 1307 at 50th & Penn. on the Oak-Harriet line. (WO)

Center Right: 1248, interior. (WO)

Lower Left: 1136 at Fair Grounds. It was used there during several of the Fairs as TCRT's Money Car. (WO)



End of the line for suburban car 1264 is seen above; the car is pictured in storage at North Side Station.

INTERURBANS

CAR	WEIGHT	MOTORS	CONTROL	TRUCKS	ONE-MAN	REMARKS	SCRAPPED
1124	48,300	70	K28A	Baldwin #1	1932	Off-center car	1939
1125	"	"	"	"	"	used On Jackson St.	"
1126	"	"	"	"	"	line in St. Paul	"
1127	"	"	"	"	"	"	"
1128	"	"	"	"	"	"	"
1129	"	"	"	"	"	Rebuilt DE 1932	1947
1130	"	"	"	"	"	Off-center car	1939
1131	"	"	"	"	"	"	"
1132	"	"	"	"	Not	"	"
1133	"	"	"	"	"	"	"
1134	"	"	"	"	"	To Supply Car 95	1936
1135	46,700	67	K6	"	"	"	1938
1136	"	"	"	"	"	State Fair Money Car	1939
1137	"	"	"	"	"	"	"
1138	"	"	"	"	"	"	"
1139	"	"	"	"	"	"	1938
1140	"	"	"	"	"	"	1939
1141	"	"	"	"	"	"	"
1142	"	"	"	"	"	"	"
1143	48,300	70	"	Baldwin #5	"	"	"
1144	"	"	"	"	"	"	"
1145	60,400	73	G6-TM	#2	"	Double-Deck 1906-09	1938
1146	"	"	"	#4	"	(Rebuilt with front	1941
1147	"	"	"	"	"	(exit & city fenders	"
1148	"	"	"	"	"	(in 1938 for	"
1149	"	"	"	"	"	(Inter-campus line	"
1150	"	"	"	"	"	1145-1163 had	1938
1151	"	"	"	"	"	pilots; used on	"
1152	"	"	"	"	"	Lake Minnetonka	"
1153	"	"	"	"	"	lines until 1932	"
1154	"	"	"	"	"	"	"
1155	"	"	"	"	"	"	"
1156	"	"	"	"	"	"	"
1157	"	"	"	"	"	"	"
1158	"	"	"	"	"	"	"
1159	"	"	"	"	"	"	"
1160	"	"	"	"	"	"	"
1161	"	"	"	"	"	"	"
1162	"	"	"	"	"	"	"
1163	"	"	"	"	"	"	"
1164	50,400	70	K28	"	"	"	1939
1165	"	"	"	"	"	"	"
1166	51,000	216	K37	TC-8	1937	Steel Sheathing	Not
1167	"	"	"	"	"	Wood	"
1168	"	"	"	"	"	"	"
1169	"	"	"	"	"	"	1953
1170	"	"	"	"	"	"	Not
1171	"	"	"	"	"	"	1953
1172	"	"	"	"	"	"	"
1173	"	"	"	"	"	"	"
1174	"	"	"	"	"	"	"
1175	"	"	"	"	"	"	Not
1176	"	"	"	"	"	Steel	1953
1177	"	"	"	"	"	Wood	Not
1178	"	"	"	"	"	Wood; Wrecked	1940
1179	51,000	216	K37	TC-8	1937	Sheathing	Not
1180	"	"	"	"	"	"	"
1181	"	"	"	"	"	"	"
1182	"	"	"	"	"	"	"
1183	"	"	"	"	"	"	"
1184	"	"	"	"	"	"	"
1185	"	"	"	"	"	Steel	"
1186	"	"	"	"	1936	Wood	"
1187	"	"	"	"	"	"	1953
1188	"	"	"	"	"	"	"
1189	"	"	"	"	"	"	Not
1190	"	"	"	"	"	"	1953
1191	"	"	"	"	"	"	Not
1192	"	"	"	"	"	"	"
1193	"	"	"	"	"	"	"
1194	"	"	"	"	"	"	1953
1195	"	"	"	"	"	"	"
1196	49,600	70	K28	Baldwin #3	"	"	"
1197	"	"	"	"	"	Steel	Not
1198	"	"	"	"	"	Wood; Wrecked	1951
1199	"	"	"	"	"	Sheathing	1953
1200	"	"	"	#5	"	Steel	Not
1201	"	"	"	"	"	"	1953
1202	"	"	"	"	Not	Sold to Duluth Oct	1918
1203	"	"	"	"	1936	Steel Sheathing	Not
1204	"	"	"	"	Not	Sold to Duluth Oct	1918
1205	"	"	"	"	1936	Wood Sheathing	Not
1206	"	"	"	"	"	"	1953
1207	"	"	"	"	"	Steel	"
1208	"	"	"	"	"	"	1953
1209	"	"	"	"	"	"	Not
1210	"	"	"	"	"	"	"
1211	"	"	"	"	"	"	"
1212	"	"	"	"	Not	Sold to Duluth Oct	1918
1213	"	"	"	"	1936	Wood Sheathing	Not
1214	"	"	"	"	"	"	"
1215	"	"	"	"	"	Steel	"
1216	"	"	"	"	"	Wood	"
1217	"	"	"	"	"	Steel	1953
1218	"	"	"	"	"	"	Not
1219	"	"	"	"	1935	"	"
1220	"	"	"	"	"	Wood	"
1221	49,000	"	"	"	"	Steel	"
1222	"	"	"	"	"	Wood	"
1223	"	"	"	"	"	Steel	"
1224	"	"	"	"	"	"	1953
1225	"	"	"	"	"	Wood	"

CAR	WEIGHT	MOTORS	CONTROL	TRUCKS	ONE-MAN	REMARKS	SCRAPPED
1226	49,000	70	K28	Baldwin #3	1935	Wood Sheathing	1953
1227	"	"	"	"	"	Steel	"
1228	"	"	"	"	"	Wood	"
1229	"	"	"	"	"	"	"
1230	"	"	"	"	1931	Rblt DE 1931	1952
1231	"	"	"	"	Not	Sold to Duluth	1918
1232	"	"	"	"	"	"	"
1233	"	"	"	"	1935	Wood Sheathing	Not
1234	"	"	"	"	Not	Sold to Duluth	1918
1235	49,600	70	K28	Baldwin #5	1935	Steel Sheathing	1952
1236	"	"	"	"	"	Wood	Not
1237	"	"	"	"	"	Steel	"
1238	"	"	"	"	"	Wood	"
1239	"	"	"	"	"	"	1953
1240	"	"	"	"	"	"	Not
1241	"	"	"	"	"	"	"
1242	"	"	"	"	"	"	"
1243	"	"	"	"	"	Steel	"
1244	"	"	"	"	"	"	1953
1245	"	"	"	"	"	"	Not
1246	"	"	"	"	"	Wood	"
1247	"	"	"	"	"	Steel	1952
1248	"	"	"	"	"	Wood	Not
1249	"	"	"	"	"	"	"
1250	"	"	"	"	"	"	"
1251	"	"	"	"	"	"	"
1252	"	"	"	"	"	"	"
1253	"	"	"	"	"	"	"
1254	"	"	"	"	Not	"	1952
1255	58,900	73	G6TM	Baldwin #4	"	"	1938
1256	"	"	"	"	"	"	"
1257	"	"	"	"	"	"	1939
1258	"	"	"	"	"	"	1920
1259	"	"	"	"	"	Wood Sheathing	1938
1260	"	"	"	"	"	"	1939
1261	"	"	"	"	"	To Supply Car	1938
1262	"	"	"	"	"	Wood Sheathing	1939
1263	"	"	"	"	"	"	"
1264	"	"	"	"	"	"	1938
1265	"	"	"	"	"	"	"
1266	49,200	70	K28B	Baldwin #5	"	"	Not
1267	"	"	"	"	"	"	1953
1268	"	"	"	"	"	"	"
1269	"	"	"	"	"	"	Not
1270	"	"	"	"	"	"	"
1271	"	"	"	"	"	"	1953
1272	"	"	"	"	"	"	1952
1273	"	"	"	"	"	"	"
1274	"	"	"	"	"	"	"
1275	"	"	"	"	"	"	"
1276	"	"	"	"	"	"	"
1277	"	"	"	"	"	"	"
1278	"	"	"	"	"	"	"
1279	"	"	"	"	"	"	"
1280	"	"	"	"	"	"	"
1281	"	"	"	"	"	"	"
1282	"	"	"	"	"	"	"
1283	"	"	"	"	"	"	"
1284	"	"	"	"	"	"	"
1285	"	"	"	"	"	"	"
1286	"	"	"	"	"	"	"
1287	"	"	"	"	"	"	"
1288	47,800	213	K37	"	"	"	"
1289	"	"	"	"	"	"	"
1290	"	"	"	"	"	"	"
1291	"	"	"	"	K37A	"	"
1292	"	"	"	"	"	"	"
1293	47,800	213	K37A	Baldwin #5	1931	Wood Sheathing	Not
1294	"	"	"	"	"	Steel	"
1295	"	"	"	"	"	Wood	"
1296	"	"	"	"	"	"	"
1297	"	"	"	"	"	"	"
1298	"	"	"	"	"	"	"
1299	"	"	"	"	"	"	"
1300	"	"	"	"	"	"	"
1301	"	"	"	"	"	"	"
1302	"	"	"	"	"	"	"
1303	"	"	"	"	"	"	"
1304	"	"	"	"	"	"	"
1305	"	"	"	"	"	"	"
1306	"	"	"	"	"	"	"
1307	"	"	"	"	"	Steel	"
1308	"	"	"	"	"	Wood	"
1309	"	"	"	"	"	"	"
1310	48,000	"	"	TC-5	"	"	"
1311	"	"	"	"	"	Steel	"
1312	"	"	"	"	"	"	"
1313	"	"	"	"	"	Wood	"
1314	"	"	"	"	"	"	"
1315	"	"	"	"	"	Steel	"
1316	"	"	"	"	"	Wood	"
1317	"	"	"	"	"	Steel	1953
1318	"	"	"	"	"	"	"
1319	"	"	"	"	"	Wood	Not
1320	"	"	"	"	"	"	"
1321	"	"	"	"	"	"	"
1322	"	"	"	"	"	Steel	"
1323	"	"	"	"	"	"	"
1324	"	"	"	"	"	"	"
1325	"	"	"	"	"	Steel	"
1326	"	"	"	"	"	"	"
1327	"	"	"	"	"	Wood	"

1328-1498

SPECIFICATIONS & EQUIPMENT

Dates Built: 1328-1359 in 1908; 1360-1379 in 1909; 1380-1429 in 1910; 1430-1479 in 1911; 1480-1498 in 1912.

All had length 46'8", height 11'5"; width was 9'2½" for 1328-1359, 9'1" for 1360-1498.

All had steel underframes, inside-hung brakes, triple rear gates, double rear bulkhead doors, arc headlights, seven-inch trolley wheels, 34-inch truck wheels, Peter Smith hot water heaters. Seating was the same as on 1164-1327. GE air systems were used on 1328-1429 and 1482-1498, while 1430-1481 had Allis-Chalmers AAB. Gear ratios were 15:71 for 1328-1370 and 1376-1379, 17:69 for 1371-1375 and 1380-1498.

1328-1481 had swinging motorman's doors, while 1482-1498 had sliding ones. 1450 was temporarily fitted in 1911 with an experimental front passenger exit having sliding door and folding steps.



TROLLEY COACHES: An experiment in the operation of trolley coaches was made in Minneapolis by TCRT during 1922 and 1923. Two coaches (one built by the J. G. Brill Co. of Philadelphia and one by TCRT itself) were used on a line from 38th & Bloomington to 48th & Bloomington. These coaches were so constructed that they could operate either on the street or on rails; this was done to enable them to operate to and from Lake Street Station without putting up an additional trolley wire for the negative return, the rails serving instead. This was accomplished by the use of but one trolley pole with a fork at its end, each fork tipped by a trolley wheel. When under double overhead wires, both wheels were in use; when on streetcar tracks but one was used with steel rear wheels running on the rails.

Service was given on a fifteen-minute headway during rush hours, and thirty minutes at other times; the line was open from 6:00 AM to 11:30 PM. Apparently coach #1 was a crude-type gasoline bus.

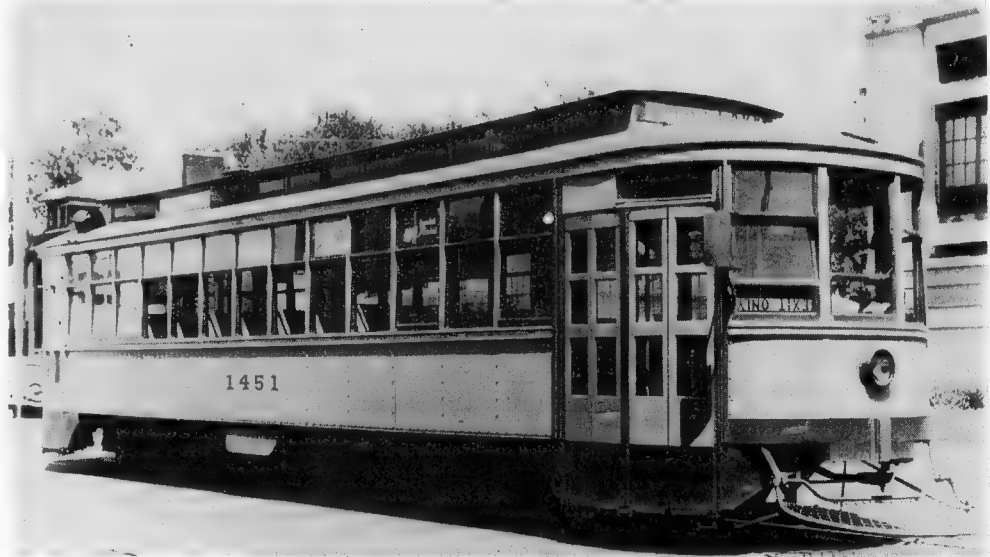
This line opened on May 15, 1922, and ran until May 23, 1923, when the Bloomington Ave. rail line was extended to 48th. The coaches were then stored until June 11, 1934, when all were sold to be scrapped.

In its 1922 Annual Report, TCRT stated that it did not accept or reject trolley coaches, but that its investigation of them would be continued.



Above: 1338 at the Lake Harriet loop, about 1915.

Below: 1451 at Minneapolis end of the Selby-Lake line, 1949. Note the steel sheathing, carried out on a great number of standard cars. (DB)



Headlights in standard cars were originally the carbon-arc type. When cars were rebuilt in the '20s, getting front exits, headlights were changed to the electric incandescent type. All cars were equipped with an electric tail light, and all deck-roof cars had red glass in the rearward-facing clerestory panel.

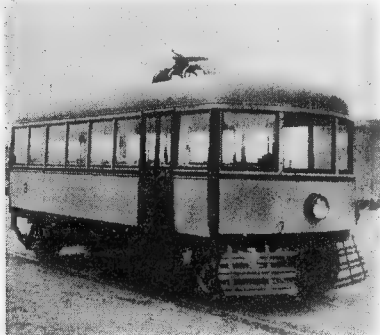
All one-man cars (except PCCs) had passenger signal buttons connected to a doorbell sounder, except that buttons on the rear platform operated an ordinary buzzer. This enabled the operator to open the rear doors instead of or in addition to the front doors, as necessary.

Cars 1425 and up had full-length storm sash while 1424 and below had only the lower sash protected by storm windows. Starting in 1945, 237 cars were equipped with window guards made of quarter-inch steel rods instead of the previous wire screens. The new guards were hinged at the bottom so that they could be swung down over the sides when windows were washed, whereas the screens had to be removed entirely.

Certain cars were equipped with fareboxes for Mahtomedi and White Bear local service. These were: 1116, 1117, 1119, 1257, 1260-1263.

Seats in all cars except PCCs were covered with natural-color rattan. In later years the rattan was painted a pale yellow. In an effort to reduce the expense of maintaining the rattan seats, new coverings of dark green plastic with the same weave as the old rattan were installed experimentally in 1408, 1454, 1485, 1492, 1501, 1577, 1587, 1618, 1656, 1669, 1707, and 1747.

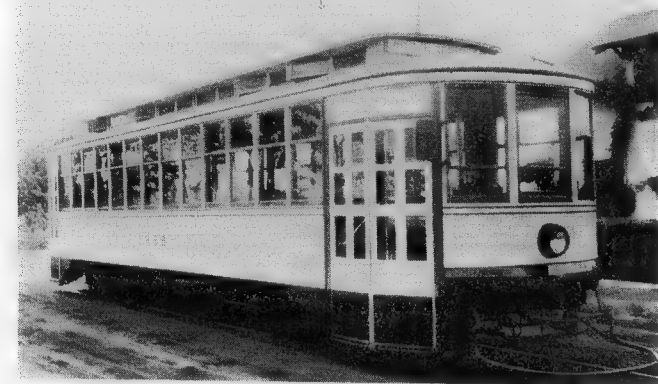
The following cars had brackets for metal classification markers for use on Mahtomedi: 1211, 1213-1218, 1233, 1235, 1238-1241, 1271, 1391, 1393, 1398, 1608, 1617, 1618, 1622-1624, 1630, 1631, 1633-1635, 1809-1815, 1821, 1822, 1825, 1832, 1840.



TCRT trolley coach #3 (#2 a Brill), built by TCRT in December, 1922. Note flanged rear wheel and general resemblance to the lightweight cars TCRT was then building.

CAR	WEIGHT	MOTORS	CONTROL	TRUCKS	ONE-MAN	SIDES	REMARKS
1328	48,000	213	K37A	TC-5	1931	Steel	In Service
1329	"	"	"	"	Not	Wood	Scrapped
1330	"	"	"	"	"	"	Wrecked
1331	"	"	"	"	"	"	Scrapped
1332	"	"	"	"	"	"	"
1333	"	"	"	"	"	"	"
1334	"	"	"	"	"	"	"
1335	"	"	"	"	"	"	"
1336	"	"	"	"	"	"	"
1337	"	"	"	"	"	"	"
1338	"	"	"	"	"	"	"
1339	"	"	"	"	"	"	"
1340	"	"	"	"	"	"	"
1341	"	"	"	"	"	"	"
1342	"	"	"	"	"	"	"
1343	"	"	"	"	"	"	"
1344	"	"	"	"	"	"	"
1345	"	"	"	"	"	"	"
1346	"	"	"	"	"	"	"
1347	"	"	"	"	"	"	"
1348	"	"	"	"	"	"	"
1349	48,000	213	K37A	TC-5	"	To Supply Car 97	1947
1350	"	"	"	"	"	Wood Scrapped	1951
1351	"	"	"	"	"	"	1952
1352	"	"	"	"	"	"	1949
1353	"	"	"	"	"	"	1946
1354	"	"	"	"	"	Wrecked	1949
1355	"	"	"	"	"	Scrapped	1952
1356	"	"	"	"	"	"	1949
1357	"	"	"	"	"	"	1952
1358	"	"	"	"	"	"	1949
1359	"	"	"	"	"	"	1949
1360	46,800	"	"	"	"	"	1947
1361	"	"	"	"	"	"	1952
1362	"	"	"	"	"	"	1947
1363	"	"	"	"	"	"	1951
1364	"	"	"	"	"	"	1947
1365	"	"	"	"	"	"	1952
1366	"	"	"	"	"	"	1952
1367	"	"	"	"	"	"	1951
1368	"	"	"	"	"	"	1952
1369	"	"	"	"	"	"	1952
1370	"	"	"	"	"	"	1949
1371	"	"	"	TC-8	"	"	1947
1372	"	"	"	"	"	"	1949
1373	"	"	"	"	"	"	1949
1374	"	"	"	"	"	"	1952
1375	"	"	"	"	"	"	1952
1376	"	"	"	TC-5	"	"	1949
1377	"	"	"	"	"	"	1949
1378	"	"	"	"	"	"	1950
1379	"	"	"	"	"	"	1949
1380	46,200	216	"	"	"	"	1951
1381	"	"	"	"	"	"	1954
1382	"	"	"	"	1935	Scrapped	1954
1383	"	"	"	"	Not	"	1952
1384	"	"	"	"	1935	"	1953
1385	"	"	"	"	"	Steel	1954
1386	"	"	"	"	"	Wood	1953
1387	"	"	"	"	"	"	1953
1388	"	"	"	"	"	"	1953
1389	"	"	"	"	"	Steel	1954
1390	"	"	"	"	"	"	1953
1391	"	"	"	"	"	"	"
1392	"	"	"	"	"	Wood	"
1393	"	"	"	"	"	"	"
1394	"	"	"	"	"	Steel	"
1395	"	"	"	"	"	Wood	"
1396	"	"	"	"	"	Steel	"
1397	"	"	"	"	"	"	"
1398	"	"	"	"	"	"	"
1399	"	"	"	"	Not	Wood	1949
1400	"	"	"	"	"	"	1951

CAR	WEIGHT	MOTORS	CONTROL	TRUCKS	ONE-MAN	SIDES	REMARKS
1401	46,200	216	K37A	TC-5	Not	Wood	Scrapped
1402	"	"	"	"	1935	Steel	In Service
1403	"	"	"	"	Not	Wood	Scrapped
1404	"	"	"	"	"	"	1952
1405	"	"	"	"	"	"	1949
1406	"	"	"	"	"	"	1949
1407	"	"	"	"	"	"	1952
1408	"	"	"	"	"	"	1952
1409	"	"	"	"	1935	Steel	"
1410	"	"	"	"	Not	Wood	"
1411	"	"	"	"	"	"	1952
1412	"	"	"	"	"	"	1949
1413	"	"	"	"	"	"	1949
1414	"	"	"	"	"	"	1947
1415	"	"	"	"	"	"	1952
1416	"	"	"	"	1935	Steel	In Service
1417	"	"	"	"	Not	Wood	Scrapped
1418	"	"	"	"	1935	Steel	"
1419	"	"	"	"	Not	Wood	"
1420	"	"	"	"	"	"	1951
1421	"	"	"	"	1935	Steel	"
1422	"	"	"	"	Not	Wood	"
1423	"	"	"	"	"	"	1952
1424	"	"	"	"	"	"	1952
1425	"	"	"	"	1935	Steel	In Service
1426	"	"	"	"	Not	Wood	Scrapped
1427	"	"	"	"	"	"	1953
1428	"	"	"	"	"	"	1952
1429	"	"	"	"	"	"	1951
1430	48,400	216	K37A	TC-6	"	"	1947
1431	"	"	"	"	Not	"	1952
1432	"	"	"	"	"	"	1949
1433	"	"	"	"	"	"	1953
1434	"	"	"	"	1935	Steel	In Service
1435	"	"	"	"	Not	Wood	Scrapped
1436	"	"	"	"	"	"	1949
1437	"	"	"	"	"	"	1952
1438	"	"	"	"	1935	"	In Service
1439	"	"	"	"	Not	"	Scrapped
1440	"	"	"	"	"	"	1949
1441	"	"	"	"	1935	Steel	In Service
1442	"	"	"	"	"	"	1949
1443	"	"	"	"	Not	Wood	Scrapped
1444	"	"	"	"	"	"	1949
1445	"	"	"	"	"	"	1947
1446	"	"	"	"	"	"	1953
1447	"	"	"	"	1935	Steel	"
1448	"	"	"	"	Not	Wood	"
1449	"	"	"	"	1935	"	"
1450	"	"	"	"	"	"	1947
1451	"	"	"	"	"	"	In Service
1452	"	"	"	"	"	Steel	Scrapped
1453	"	"	"	"	Not	Wood	"
1454	48,400	216	K37A	TC-6	"	"	1953
1455	"	"	"	"	1935	Wood	"
1456	"	"	"	"	Not	"	Scrapped
1457	"	"	"	"	"	"	1949
1458	"	"	"	"	"	"	1952
1459	"	"	"	"	"	"	1949
1460	"	"	"	"	"	"	1952
1461	"	"	"	"	"	"	1952
1462	"	"	"	"	"	"	1952
1463	"	"	"	"	1935	Steel	"
1464	"	"	"	"	Not	Wood	"
1465	"	"	"	"	1935	"	"
1466	"	"	"	"	1934	Steel	"
1467	"	"	"	"	"	"	1953
1468	"	"	"	"	"	"	1953
1469	"	"	"	"	1935	Steel	In Service
1470	"	"	"	"	1934	"	Scrapped
1471	"	"	"	"	"	Wood	In Service
1472	"	"	"	"	Not	"	Scrapped
1473	"	"	"	"	"	"	1949
1474	"	"	"	"	1935	"	In Service
1475	"	"	"	"	Not	"	Scrapped
1476	"	"	"	"	1934	"	"
1477	"	"	"	"	"	"	1953
1478	"	"	"	"	"	"	1952
1479	"	"	"	"	"	"	1953
1480	43,700	216	K37C	TC-8	"	"	1953
1481	"	"	"	"	Not	"	1947
I 1482	"	"	"	"	"	"	Sold to Duluth
II 1482	"	"	"	"	1934	"	In Service
I 1483	"	"	"	"	Not	"	Sold to Duluth
II 1483	"	"	"	"	"	"	Scrapped
I 1484	"	"	"	"	"	"	Sold to Duluth
II 1484	"	"	"	"	"	"	Scrapped
I 1485	"	"	"	"	"	"	Sold to Duluth
II 1485	"	"	"	"	"	"	Scrapped
1486	"	"	"	"	1935	Steel	Scrapped
1487	"	"	"	"	Not	Wood	"
1488	"	"	"	"	1942	Steel	In Service
1489	"	"	"	"	1934	Wood	"
1490	"	"	"	"	1935	"	"
1491	"	"	"	"	1942	Steel	Scrapped
1492	"	"	"	"	"	"	1953
1493	"	"	"	"	1935	"	In Service
1494	"	"	"	"	Not	Wood	Scrapped
1495	"	"	"	"	1934	"	In Service
1496	"	"	"	"	"	Steel	"
1497	"	"	"	"	"	"	Scrapped
1498	"	"	"	"	1935	"	In Service
	"	"	"	"	1934	Wood	Scrapped



The second standard one-man car built was 1328, shown here in 1931. Note small "Enter Here" box above doors and no inclined mirror.

1499-1669

SPECIFICATIONS & EQUIPMENT

Dates Built: 1499-1577 in 1912; 1578-1655 in 1913; 1656-1669 in 1914.

Dimensions: All cars, length 46'8"; width 9'1"; height 11'5".

All had steel underframes, inside-hung brakes, triple rear gates, double rear bulkhead doors, arc headlights, seven-inch trolley wheels, 34-inch truck wheels, Peter Smith hot water heaters. Seats were cross in the forward section, and longitudinal in the rear, with a total capacity of 48. All had sliding motorman's doors and GE air systems. Gear ratios were 17:69 for 1499-1573, 15:66 for 1574-1577, and 16:68 for 1578-1669. After 1931 most cars of this group were rebuilt for one-man operation, receiving GE-216 motors with a 17:69 gear ratio.

1600-1625 TRAIN CARS: Records are not lacking for the 1920s, but they make a mystery of what equipment these cars had. These cars should have mostly had #8-203 equipment; a few cars, formerly having higher numbers, should have had #9-200. Two seemingly reliable lists in the late 1920s give them 216 motors; one list has #8 trucks, the other #9. Data sheets and several other lists give them #9 trucks, 200 motors. We will assume that the train cars had #9-200 equipment. (A 1922 valuation report has 203 motors in the train cars, except for 216s in 1603-1605, 1607 and 1609.)

Renumbering of 1600-1625: (1921)					
Old---New	Old---New	Old---New	Old---New	Old---New	Old---New
1600 1600	1640 1609	1670 1618			
1599 1601	1642 1610	1671 1619			
1625 1602	1644 1611	1620 1620			
1603 1603	1650 1612	1699 1621			
1626 1604	1655 1613	1622 1622			
1605 1605	1614 1614	1766 1623			
1630 1606	1615 1615	1701 1624			
1607 1607	1669 1616	1590 1625			
1633 1608	1617 1617				

In every instance except one, cars merely exchanged numbers; the exception was the first train motor car, 1590, which became 1625---original 1625 then became 1602---and original 1602 became 1590.

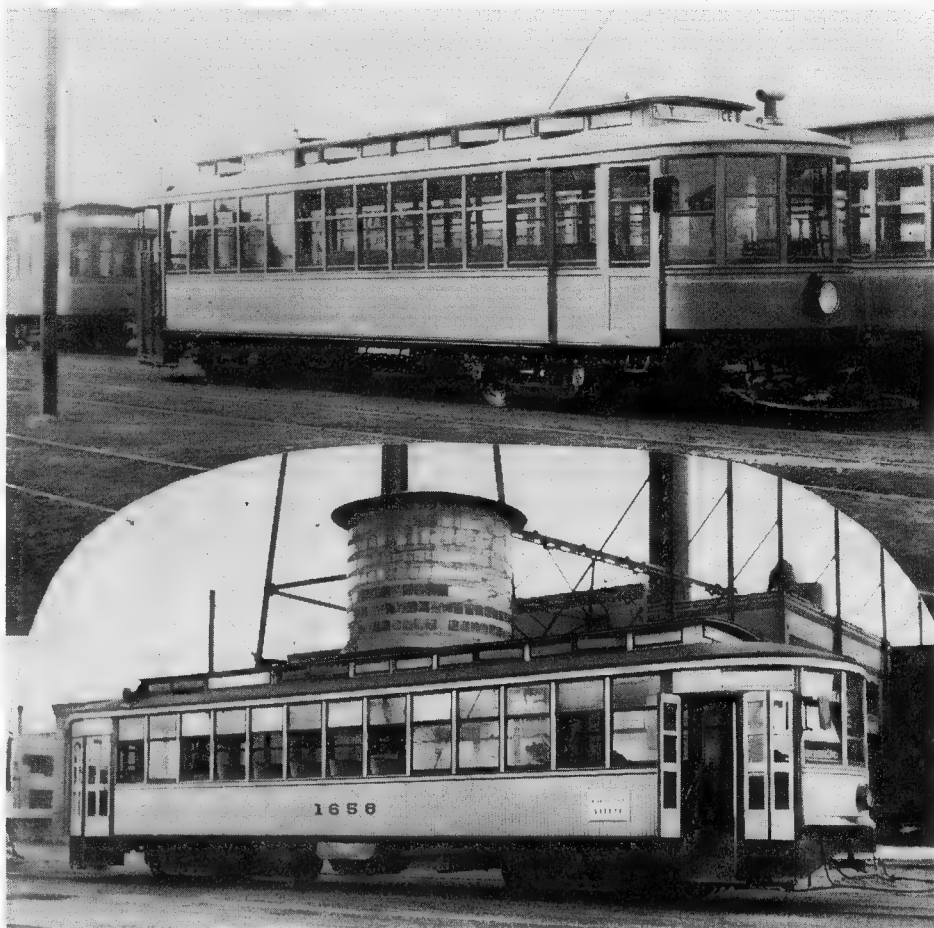
The reason for the renumbering was that train cars were rebuilt in the 1921 program of converting 300 standard cars to front-exit cars. Of this group, the first done was train car 1590 with its trailer 1590A. 240 regular front exit cars were next done. Work then commenced on 25 more trains with

Top: 1510 at Snelling, 1917.

Below: 1658 at Snelling, 1950. (EHN)

737-761 converted into trailers. Consecutive train numbers were desired, with motor cars to be rebuilt from cars still requiring front exit work.

The motor cars were rebuilt from triple to double gates, and platform enclosed where third set of gates had been.



Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	1	2	3	4	5	6
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31											
75 021466																	
1	2	3	4	5	6	7	8	9	10	11	12						
15	15	15	15	15	15	15	15	15	15	15	15						
30	30	30	30	30	30	30	30	30	30	30	30						
45	45	45	45	45	45	45	45	45	45	45	45						

SPECIALY BUILT AND NON-STANDARD T.C.R.T. PASSENGER CARS:

SHORT CARS: 868-899. 37' long; all other standard cars were 44' to 47'. Used on local main lines at first, later on stub lines, Stillwater local lines, Bryn Mawr, Jackson, Broadway, and on short rush-hour pullouts on heavy lines.

NARROW CARS: 976-979 Only 8'3" wide; reason unknown.

DOUBLE-DECK CARS: 1092, 1145, and probably one other; upper decks removed about 1908.

DOUBLE-END CARS, STANDARD: Temporary: 890, 893, 894, 992, 993 and possibly others. Permanent: 813, 847, 875, 876, 896-899; these were two-man cars except on free lines (Burns Ave. and Fort Snelling Stub)

DOUBLE-END CARS, SPECIAL: One-Man: 1230, converted for Deephaven and used later on Fort Snelling Stub; lightweight #4, spare car for 1230; 1129 and lightweight #3 (these two had a door on either side), converted for Merriam Park and Western Ave. lines.

SUBURBAN CARS: High speed cars for Stillwater and Lake Minnetonka; 1112-1123, 1145-1163, 1255-1265 (42 cars)

EX-SUBURBAN CAMPUS CARS: 1146-1149; kept for Inter Campus line, using slow motors but retaining pilots, class lamps and suburban seating arrangement. Fitted with front exit doors 1938.

JACKSON ST. CARS: 1124-1133 had their bodies moved one inch off center in 1929 to prevent the cars' rubbing due to narrow track centers on the Jackson St. line. 1124-1128 and 1131 were rebuilt to special 1-man cars for this line in 1932.

TRAINS: 1600-1625 were equipped to haul trailers when rebuilt with front exits in 1920-1921; some had their numbers changed at this time to get the train numbers consecutive. These motor cars continued in use after the early 1930s as front exit and 1-man cars. The trailers were 200-225, rebuilt from old standard cars.

MULTIPLE UNIT LIGHTWEIGHT TRAINS: 2000-2001, 2002-2003, 2004-2005; these were standardized with the other 2000s in 1928.

LIGHTWEIGHT CARS 2000-2030: Rebuilt to 1-man in 1930 and 1932. 2001, 2002, 2004 were scrapped for parts in 1950. 2011 was scrapped in 1953, the others in 1952.

STILLWATER LOCAL LIGHTWEIGHT CARS: 1-4; the only TCRT cars built 1-man. Later ran in Mpls. on Franklin-11th, Bryn Mawr, Broadway and shuttle lines.

CAR WEIGHT MOTORS CONTROL TRUCKS ONE-MAN SIDES								REMARKS
1499	43,700	216	K37C	TC-8	1934	Steel	In Service	
1500	"	"	"	"	1942	"	Scrapped 1953	
1501	"	"	"	"	1935	"	"	1953
1502	"	"	"	"	Not	Wood	"	1953
1503	"	"	"	"	1935	Steel	"	1953
1504	43,700	216	K37C	TC-8	1935	Steel	"	1953
1505	"	"	"	"	"	"	"	1953
1506	"	"	"	"	1934	"	In Service	
1507	"	"	"	"	"	"	Burned 1952	
1508	"	"	"	"	"	"	Scrapped 1953	
1509	"	"	"	"	1935	Wood	In Service	
1510	"	"	"	"	"	"	Scrapped 1953	
1511	"	"	"	"	"	"	In Service	
1512	"	"	"	"	1934	Steel	"	
1513	"	"	"	"	1935	Wood	"	
1514	"	"	"	"	Not	"	Scrapped 1952	
1515	"	"	"	"	1934	Steel	"	1954
1516	"	"	"	"	1942	"	"	1953
1517	"	"	"	"	1934	"	"	"
1518	"	"	"	"	"	"	"	"
1519	"	"	"	"	"	"	"	"
1520	"	"	"	"	"	Wood	"	"
1521	"	"	"	"	"	Steel	"	"
1522	"	"	"	"	"	Wood	"	"
1523	"	"	"	"	1935	"	"	"
1524	"	"	"	"	1934	"	"	"
1525	"	"	"	"	1935	"	"	"
1526	"	"	"	"	"	"	"	"
1527	"	"	"	"	"	"	"	"
1528	"	"	"	"	1934	Steel	"	"
1529	"	"	"	"	"	"	"	"
1530	"	"	"	"	"	Wood	"	"
1531	"	"	"	"	"	"	"	"
1532	"	"	"	"	1935	"	In Service	
1533	"	"	"	"	1934	"	"	
1534	"	"	"	"	1935	Steel	Scrapped 1952	
1535	"	"	"	"	1934	"	"	1953
1536	"	"	"	"	"	"	In Service	
1537	"	"	"	"	1935	Wood	Scrapped 1953	
1538	"	"	"	"	1933	Steel	"	1953
1539	"	"	"	"	1934	"	"	1953
1540	"	"	"	"	1933	"	"	1953
1541	"	"	"	"	"	"	"	1953
1542	"	"	"	"	Not	Wood	"	1951
1543	"	"	"	"	1933	"	"	1953
1544	"	"	"	"	"	"	"	1954
1545	"	"	"	"	1934	Steel	"	1953
1546	"	"	"	"	Wood	"	In Service	
1547	"	"	"	"	Not	"	Scrapped 1949	
1548	"	"	"	"	1933	"	"	1953
1549	"	"	"	"	1934	"	In Service	
1550	"	"	"	"	"	Steel	Scrapped 1953	
1551	"	"	"	"	1933	Wood	In Service	
1552	"	"	"	"	"	Steel	Scrapped 1953	
1553	"	"	"	"	1934	"	"	1952
1554	"	"	"	"	"	Wood	"	1953
1555	"	"	"	"	Not	"	Scrapped 1951	
1556	"	"	"	"	1933	"	In Service	
1557	"	"	"	"	1934	Steel	Scrapped 1953	
1558	43,700	216	K37C	TC-8	1934	Wood	In Service	
1559	"	"	"	"	1933	Steel	"	
1560	"	"	"	"	"	"	"	
1561	"	"	"	"	1935	"	"	
1562	"	"	"	"	"	"	Scrapped 1953	
1563	"	"	"	"	Not	Wood	"	1951
I 1564	"	"	"	"	1934	"	To Duluth 1912	
II 1565	"	"	"	"	Not	"	In Service	
I 1566	"	"	"	"	1933	Steel	Scrapped 1953	
II 1567	"	"	"	"	Not	Wood	To Duluth 1912	
1568	"	"	"	"	1933	Steel	Scrapped 1953	
1569	"	"	"	"	"	Wood	"	1953
1570	"	"	"	"	1934	Steel	In Service	
1571	"	"	"	"	1933	"	Scrapped 1953	
1572	"	"	"	"	"	"	In Service	1953
1573	"	"	"	"	1934	Steel	"	
1574	"	"	K13F2	"	1933	"	"	
1575	"	"	"	"	"	"	Scrapped 1953	
1576	"	"	"	"	"	Wood	In Service	
1577	"	"	"	"	"	Steel	"	
1578	42,100	216	K37C	TC-5	"	Wood	"	
1579	"	"	"	"	"	"	"	
1580	"	"	"	"	"	"	"	
1581	"	"	"	"	"	Steel	Scrapped 1953	
1582	"	"	"	"	"	"	"	1953
1583	"	"	"	"	"	"	In Service	
1584	"	"	"	"	1934	Wood	"	
1585	"	"	"	"	"	"	Scrapped 1953	
1586	"	"	"	"	"	Steel	"	1953
1587	"	"	"	"	1933	"	"	1953
1588	"	"	"	"	1934	"	"	1953
1589	"	"	"	"	1933	"	"	1953
I 1590	"	"	"	"	Not	Wood	II 1625 in 1920	
II 1591	"	"	"	"	1934	Steel	In Service	
1592	"	"	"	"	1933	Wood	Scrapped 1953	
1593	"	"	"	"	1935	Steel	In Service	
1594	"	"	"	"	1933	"	"	
1595	"	"	"	"	1934	"	Scrapped 1953	

	CAR WEIGHT		MOTORS	CONTROL	TRUCKS	ONE-MAN	SIDES	REMARKS
	1596	42,100	216	K37C	TC-5	1933	Steel	Scrapped 1953
	1597	"	"	"	"	"	"	" 1952
	1598	"	"	"	"	"	Wood	" 1953
I	1599	"	"	"	"	Not	"	Became II 1601
II	1599	"	"	"	"	1934	"	In Service
	1600	"	"	"	"	"	"	Scrapped 1953
I	1601	"	"	"	"	Not	"	Became II 1599
II	1601	"	"	"	"	1935	"	Scrapped 1953
I	1602	"	"	"	"	Not	"	Became II 1590
II	1602	"	"	"	"	1934	Steel	In Service
	1603	"	"	"	"	"	"	Scrapped 1953
I	1604	"	"	"	"	Not	Wood	Became II 1626
II	1604	"	"	"	"	1935	Steel	In Service
	1605	"	"	"	"	"	"	"
I	1606	"	"	"	"	1934	Wood	Wrecked 1951
II	1606	"	"	"	"	Not	"	Became II 1630
	1607	"	"	"	"	1935	Steel	In Service
I	1608	"	"	"	"	1934	"	"
II	1608	"	"	"	"	Not	Wood	Became II 1633
I	1609	"	"	"	"	1935	Steel	In Service
II	1609	"	"	"	"	Not	Wood	Became II 1640
I	1610	"	"	"	"	1934	"	Scrapped 1953
II	1610	"	"	"	"	Not	"	Became II 1642
I	1611	"	"	"	"	1935	"	Scrapped 1936
II	1611	"	"	"	"	Not	"	Became II 1644
I	1612	"	"	"	"	1934	Steel	Scrapped 1953
II	1612	"	"	"	"	Not	Wood	Became II 1650
I	1613	"	"	"	"	1934	"	Scrapped 1952
II	1613	"	"	"	"	Not	"	Became II 1655
	1614	"	"	"	"	1934	"	Wrecked 1951
	1615	"	"	"	"	"	Steel	Scrapped 1953
I	1616	"	"	"	"	"	Wood	" 1954
						Not	"	Became II 1669
II	1616	42,100	216	K37	TC-8	1934	Steel	In Service
	1617	"	"	K37C	TC-5	1935	"	"
I	1618	"	"	"	"	Not	Wood	Became II 1670
II	1618	"	"	K37	TC-8	1935	Steel	Scrapped 1953
I	1619	"	"	K37C	TC-5	Not	Wood	Became II 1671
II	1619	"	"	K37	TC-8	1934	Steel	In Service
	1620	"	"	K37C	TC-5	"	"	Scrapped 1953
I	1621	"	"	"	"	Not	Wood	Became II 1699
II	1621	41,700	200	K37	TC-9	1934	Steel	In Service
	1622	42,100	216	K37C	TC-5	1935	"	"
I	1623	"	"	"	"	Not	Wood	Became II 1766
II	1623	41,700	200	K37	TC-9	1935	"	Scrapped 1953
I	1624	42,100	216	K37C	TC-5	Not	"	Became II 1701
II	1624	41,700	200	K13F2	TC-9	1935	Steel	Scrapped 1953
I	1625	42,100	216	K37C	TC-5	Not	Wood	Became II 1602
II	1625	"	"	"	"	1934	"	In Service
I	1626	"	"	"	"	Not	"	Became II 1604
II	1626	"	"	"	"	1934	"	In Service
	1627	"	"	"	"	"	Steel	Scrapped 1953
	1628	"	"	"	"	"	"	In Service
	1629	"	"	"	"	"	Wood	Scrapped 1936
I	1630	"	"	"	"	Not	"	Became II 1606
II	1630	"	"	"	"	1934	Steel	Scrapped 1953
	1631	"	"	"	"	"	"	" 1953
	1632	"	"	"	"	"	"	In Service
I	1633	"	"	"	"	Not	Wood	Became II 1608
II	1633	"	"	"	"	1934	"	Scrapped 1953
	1634	"	"	"	"	"	Steel	" 1953
	1635	"	"	"	"	"	"	In Service
	1636	"	"	"	"	"	Wood	Scrapped 1953
	1637	"	"	"	"	"	Steel	In Service
	1638	"	"	"	"	"	Wood	Scrapped 1953
	1639	"	"	"	"	"	Steel	In Service
I	1640	"	"	"	"	Not	Wood	Became II 1609
II	1640	"	"	"	"	1934	Steel	In Service
	1641	42,100	216	K37C	TC-5	1934	Wood	Scrapped 1953
I	1642	"	"	"	"	Not	"	Became II 1610
II	1642	"	"	"	"	1934	"	In Service
	1643	"	"	"	"	"	"	Scrapped 1953
I	1644	"	"	"	"	Not	"	Became II 1611
II	1644	"	"	"	"	1934	"	Scrapped 1953
	1645	"	"	"	"	"	"	In Service
	1646	"	"	"	"	"	"	"
	1647	"	"	"	"	"	"	"
	1648	"	"	"	"	"	"	"
	1649	"	"	"	"	"	Steel	"
I	1650	"	"	"	"	Not	Wood	Became II 1612
II	1650	"	"	"	"	1934	Steel	Scrapped 1953
	1651	"	"	"	"	"	"	" 1953
	1652	"	"	"	"	"	"	" 1953
	1653	"	"	"	"	"	Wood	" 1953
	1654	"	"	"	"	"	"	" 1953
I	1655	"	"	"	"	1933	"	" 1953
II	1655	"	"	"	"	Not	"	Became II 1613
	1656	"	"	"	"	1933	Steel	Scrapped 1952
	1657	"	"	"	"	"	"	In Service
	1658	"	"	"	"	"	"	Scrapped 1953
	1659	"	"	"	"	"	Wood	" 1953
	1660	"	"	"	"	"	Steel	" 1953
	1661	"	"	"	"	"	"	In Service
	1662	"	"	"	"	"	"	Scrapped 1953
	1663	"	"	"	"	"	Wood	" 1953
	1664	"	"	"	"	"	"	" 1953
	1665	"	"	"	"	"	Steel	In Service
	1666	"	"	"	"	"	Wood	Scrapped 1953
	1667	"	"	"	"	"	Steel	In Service
	1668	42,100	216	K37	TC-8	"	Wood	Scrapped 1953
I	1669	"	"	"	"	Not	"	Became II 1616
II	1669	"	"	K37C	TC-5	1932	Steel	In Service

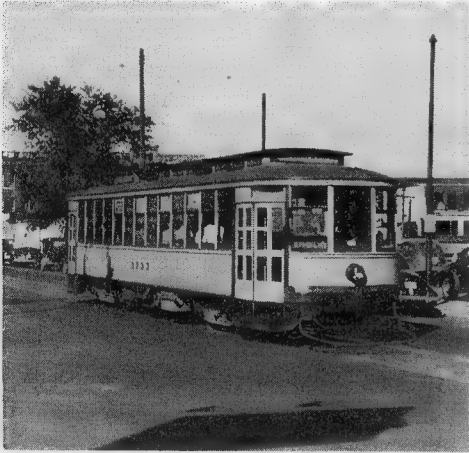
1670-1855

SPECIFICATIONS & EQUIPMENT of 1670-1855

Dates Built: 1670-1739 in 1914; 1740-1792 in 1915; 1793-1815 in 1916; 1816-1855 in 1917.

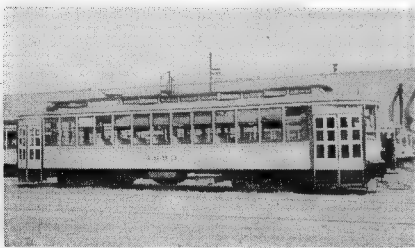
Dimensions: (All cars) length 46'8", width 9'1", height 11'5".

All had steel underframes, inside-hung brakes, triple rear gates, double rear bulkhead doors, arc headlights, seven-inch trolley wheels, 34-inch truck wheels, Peter Smith hot water heaters. Seats were cross in the forward section, and longitudinal in the rear, with a capacity of 48. Total rated capacity with a maximum allowable number of standees was 150. All had GE air systems. 1670-1739 had a sliding motorman's door. Gear ratios were 16:68 for 1670-1684, and 15:66 for 1685-1855.



Above: Car 1733 in 1942; it was in service on the University Ave. Interurban Line and is seen at 9th & Minnesota. (ILS)

Below: Interior, car 1680. (JS)



Motor 1853, Snelling Station, 1938.

TRAILERS 200-225

Trailer operation was successfully used for many years by TCHT. There were 26 sets of motor-trailer combinations which were semi-permanently coupled together and used on the Glenwood-4th Ave. South line in Minneapolis during most of their life (1921-1933). The trailer cars were obtained by taking old passenger motors and putting them on TCHT's lightweight #11 trucks (same as used under 2002-2003 but minus motors). Electrically operated folding doors were installed at the front and gates were retained at the rear.

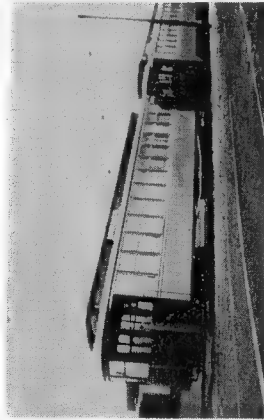
Trailers were numbered 200 through 225, and their motors were 1600-1625. Sets were coupled by corresponding numbers: 1601 and 201, 1615 and 215, etc.

Trailer operation was first tried in 1916 when car 952 was stripped of motors and controls, renumbered 1590A, and coupled to car 1590. This set ran in competition with the first lightweight multiple-unit train, 2000 and 2000A, to see which gave better service.

The motor-trailer idea won out, and 1590A was released on 10/11/20 as trailer 225. At once old cars 737-761 were made trailers and were released as 200-224 at frequent intervals between 7/12/21 and 9/10/21.

The door control of these trains was of interest: Motor car gates were under the control of the motorman, as usual. The rear trailer gates were controlled by the trailer

Trailer 207 and motor 1607 are shown here at North Side Station in 1933. With their TC #11 trucks, 200-225 rode much lower to the rails. (MAN)



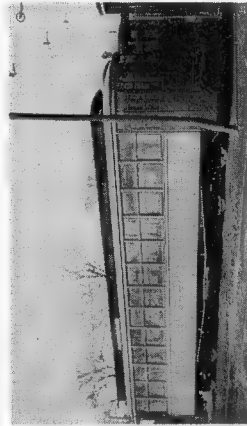
conductor. The electric front exit doors of trailers were controlled by a switch operated by the conductor of the motor car. On these trains, all vestibule windows were blocked on ends where cars were coupled. All trains had one wire spring guard between cars just over drawbars.

At least by the summer of 1930 and perhaps in some earlier summers, some of the trailers were disconnected the motor cars ran alone. That summer, 1622-1625 were

RENUMBERING DATA, TRAILERS 200-225:

New No.	Old No.	New No.	Old No.
200	745	213	749
201	758	214	738
202	740	215	737
203	746	216	736
204	744	217	735
205	748	218	734
206	742	219	733
207	739	220	732
208	743	221	731
209	750	222	730
210	741	223	729
211	747	224	728
212	751	225	1590A

Trailer 205 at Snelling, 1930.



permanently disconnected. It was intended to make 1600-1608 & 1610 permanent trains (cross seats installed in 1930 in trailers) with the rest of the trains to be connected during the winter only. 1612-1619 were disconnected April 1, 1931, and probably not used as trains again. 1600-1611 and 1620-1621 apparently served as trains until the spring of 1933, when all were permanently disconnected.

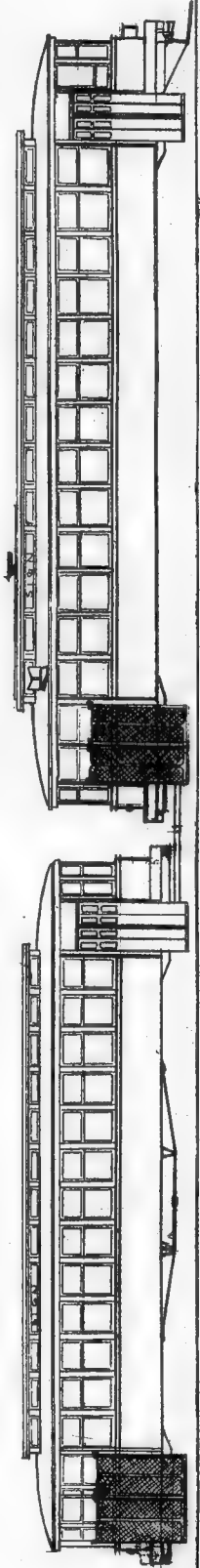
TRAILER DATA:

Weight, 24,900 lbs.
Length, 45'2 1/2"
Width, 8'8 3/4"
Height, 10'6"
Wheels: 26"
Brakes: Band
Exits: F&R
Truck WB: 44'
Air: Auto.

MOTOR DATA:

Wheels: 34"
Brakes: In.
Exits: F&R
Truck WB: 54'
Air: GE
T.B.: #13

Weight: 42,300 lbs.
Length: 46'18"
Width: 9'11"
Height: 12'12" over T.B.
Heaters: TC Mot Air
Seats: Long. and Cross
Capacity: 150
Controller: K-43



Trailers 200-225 (ex-737 to 761 and 952)

Cars 1600-1625 (as rebuilt to pull trailers in 1921)

CAR WEIGHT MOTORS CONTROL TRUCKS ONE-MAN SIDES										REMARKS
I 1670	42,100	216	K37	TC-8	1933	Wood	Became II 1618			
II 1670	"	"	K37C	TC-5	"	"	In Service			
I 1671	"	"	K37	TC-8	Not	"	Became II 1619			
II 1671	"	"	K37C	TC-5	1933	Steel	In Service			
1672	"	"	K37	TC-8	1933	Wood	"			
1673	"	"	"	"	"	Steel	Scrapped 1953			
1674	"	"	"	"	"	Wood	Burned 1940			
1675	"	"	"	"	1932	Steel	In Service			
1676	"	"	"	"	1933	Wood	"			
1677	"	"	"	"	"	Steel	Scrapped 1953			
1678	"	"	"	"	"	"	In Service			
1679	"	"	"	"	"	"	Scrapped 1953			
1680	"	"	"	"	"	"	In Service			
1681	"	"	"	"	"	Wood	Scrapped 1953			
1682	"	"	"	"	"	"	In Service			
1683	"	"	"	"	"	Steel	Scrapped 1953			
1684	"	"	"	"	"	Wood	In Service			
1685	"	"	K43F	"	"	Steel	"			
1686	41,700	200	K43F2	TC-9	"	"	"			
1687	"	"	"	"	"	"	Scrapped 1953			
1688	"	"	"	"	"	"	In Service			
1689	"	"	"	"	"	Wood	Scrapped 1953			
1690	41,700	200	K43F2	TC-9	1933	Wood	"			
1691	"	"	"	"	"	Steel	"			
1692	"	"	"	"	"	"	In Service			
1693	"	"	"	"	"	Wood	Scrapped 1953			
1694	"	"	"	"	"	Steel	In Service			
1695	"	"	"	"	"	"	Scrapped 1953			
1696	"	"	"	"	"	Wood	"			
1697	"	"	"	"	"	"	"			
1698	"	"	"	"	"	"	In Service			
I 1699	"	"	"	"	Not	"	Became II 1621			
II 1699	42,100	216	K37C	TC-5	1933	"	Wrecked 1937			
1700	41,700	200	K43F2	TC-9	1932	"	In Service			
I 1701	"	"	"	"	Not	"	Became II 1624			
II 1701	42,100	216	K37C	TC-5	1933	Steel	In Service			
1702	41,700	200	K43F2	TC-9	1932	"	Scrapped 1953			
1703	"	"	"	"	1933	"	"			
1704	"	"	"	"	"	"	"			
1705	"	"	"	"	1932	"	In Service			
1706	"	"	"	"	1933	"	"			
1707	"	"	"	"	"	Wood	"			
1708	"	"	"	"	"	Steel	"			
1709	"	"	"	"	1932	"	Scrapped 1953			
1710	"	"	"	"	"	"	In Service			
1711	"	"	"	"	"	Wood	Scrapped 1953			
1712	"	"	"	"	1933	Steel	"			
I 1713	"	"	"	"	Not	Wood	To Anoka 1916			
II 1713	"	"	"	"	1932	Steel	Scrapped 1953			
1714	"	"	"	"	1933	"	"			
1715	"	"	"	"	1932	"	In Service			
I 1716	"	"	"	"	Not	Wood	To Duluth 1916			
II 1716	"	"	"	"	1932	Steel	In Service			
1717	"	"	"	"	"	Wood	Scrapped 1953			
1718	"	"	"	"	"	Steel	"			
I 1719	"	"	"	"	Not	Wood	To Duluth 1916			
II 1719	"	"	"	"	1932	"	Scrapped 1953			
1720	"	"	"	"	"	Steel	In Service			
1721	"	"	"	"	"	"	"			
I 1722	"	"	"	"	Not	Wood	To Duluth 1916			
II 1722	"	"	"	"	1932	Steel	Scrapped 1953			
1723	"	"	"	"	"	"	1952			
I 1724	"	"	"	"	Not	Wood	To Duluth 1916			
II 1724	"	"	"	"	1933	Steel	Scrapped 1953			
1725	"	"	"	"	"	"	In Service			
1726	"	"	"	"	1932	"	"			
1727	"	"	"	"	"	Wood	"			
1728	"	"	"	"	1933	Steel	Scrapped 1952			
1729	"	"	"	"	1932	"	1953			
1730	"	"	"	"	"	"	"			
1731	"	"	"	"	"	Wood	"			
1732	"	"	"	"	1933	Steel	In Service			
1733	"	"	"	"	1932	Wood	"			
1734	"	"	"	"	"	"	Scrapped 1953			
1735	"	"	"	"	"	Steel	"			
1736	"	"	"	"	"	"	1952			
1737	"	"	"	"	"	"	1953			
1738	41,700	200	K43F2	TC-9	1932	Wood	"			
1739	"	"	"	"	"	Steel	"			
1740	"	"	"	"	1933	"	"			
1741	"	"	"	"	1932	Wood	"			
1742	"	"	"	"	1933	"	"			
1743	"	"	"	"	1932	Steel	"			
1744	"	"	"	"	1933	"	In Service			
1745	"	"	"	"	"	"	"			
1746	"	"	"	"	1932	"	"			
1747	"	"	"	"	1933	Wood	Scrapped 1953			
1748	"	"	"	"	"	Steel	"			
1749	"	"	"	"	"	"	"			
1750	"	"	"	"	"	"	"			
1751	"	"	"	"	1932	"	1952			
1752	"	"	"	"	"	"	In Service			
1753	"	"	"	"	1933	"	Scrapped 1953			
1754	"	"	"	"	"	Wood	"			
1755	"	"	"	"	"	"	In Service			
1756	"	"	"	"	1932	"	"			
1757	"	"	"	"	"	Steel	"			
1758	"	"	"	"	1933	"	"			
1759	"	"	"	"	"	"	"			
1760	"	"	"	"	1932	Wood	"			
1761	"	"	"	"	"	"	"			

CAR WEIGHT MOTORS CONTROL TRUCKS ONE-MAN SIDES							REMARKS	
	1762	41,700	200	K43F2	TC-9	1932	Steel	In Service
	1763	"	"	"	"	"	"	Scrapped 1953
	1764	"	"	"	"	"	"	In Service
	1765	"	"	"	"	"	Wood	"
I	1766	"	"	"	"	Not	"	Became II 1623
II	1766	42,100	216	K37C	TC-5	1932	Steel	In Service
	1767	41,700	200	K43F2	TC-9	"	Wood	"
	1768	"	"	"	"	"	"	"
	1769	"	"	"	"	"	Steel	Scrapped 1953
	1770	"	"	"	"	"	Wood	In Service
	1771	"	"	"	"	"	Steel	Scrapped 1952
	1772	"	"	"	"	"	"	" 1953
	1773	"	"	"	"	1933	Wood	" 1951
	1774	"	"	"	"	1932	"	" 1952
	1775	"	"	"	"	1933	Steel	In Service
	1776	"	"	"	"	"	"	Scrapped 1953
	1777	"	"	"	"	"	"	"
	1778	"	"	"	"	1932	"	In Service
	1779	"	"	"	"	"	"	Scrapped 1953
	1780	"	"	"	"	"	"	"
	1781	"	"	"	"	"	"	"
	1782	"	"	"	"	"	"	In Service
	1783	"	"	"	"	1933	Wood	Scrapped 1953
	1784	"	"	"	"	"	Steel	In Service
	1785	"	"	"	"	"	"	"
	1786	"	"	"	"	1932	Wood	"
	1787	"	"	"	"	1933	"	"
	1788	"	"	"	"	1932	"	"
I	1789	"	"	"	"	Not	"	To Duluth 1916
II	1789	"	"	"	"	1932	"	In Service
I	1790	"	"	"	"	Not	"	To Duluth 1916
II	1790	"	"	"	"	1933	"	In Service
I	1791	41,700	200	K43F2	TC-9	Not	Wood	To Duluth 1916
II	1791	"	"	"	"	1932	Steel	In Service
I	1792	"	"	"	"	Not	Wood	To Duluth 1916
II	1792	"	"	"	"	1932	"	Scrapped 1953
	1793	"	"	"	"	"	Steel	Burned 1950
	1794	"	"	"	"	"	Wood	In Service
	1795	"	"	"	"	1933	Steel	"
	1796	"	"	"	"	1932	Wood	"
	1797	"	"	"	"	"	Steel	"
	1798	"	"	"	"	"	Wood	"
	1799	"	"	"	"	1933	"	"
	1800	"	"	"	"	1932	Steel	Scrapped 1953
	1801	"	"	"	"	1933	Wood	In Service
	1802	"	"	"	"	1932	Steel	Scrapped 1953
	1803	"	"	"	"	"	"	In Service
	1804	"	"	"	"	1933	"	Scrapped 1953
	1805	"	"	"	"	1932	Wood	"
	1806	"	"	"	"	"	"	"
	1807	"	"	"	"	"	Steel	In Service
	1808	"	"	"	"	1933	"	"
	1809	"	"	"	"	"	"	Scrapped 1953
	1810	"	"	"	"	"	Wood	" 1952
	1811	"	"	"	"	"	Steel	" 1953
	1812	"	"	"	"	"	Wood	"
	1813	"	"	"	"	1932	Steel	"
	1814	"	"	"	"	1933	"	"
	1815	"	"	"	"	"	"	"
	1816	"	"	"	"	1932	"	"
	1817	"	"	"	"	"	"	In Service
	1818	"	"	"	"	"	"	"
	1819	"	"	"	"	"	"	"
	1820	"	"	"	"	"	Wood	"
	1821	"	"	"	"	"	Steel	Scrapped 1953
	1822	"	"	"	"	1933	"	"
	1823	"	"	"	"	"	"	"
	1824	"	"	"	"	"	"	In Service
	1825	"	"	"	"	"	Wood	"
	1826	"	"	"	"	"	Steel	"
	1827	"	"	"	"	"	"	"
	1828	"	"	"	"	1932	Wood	Scrapped 1953
	1829	"	"	"	"	1933	"	In Service
	1830	"	"	"	"	1932	Steel	Scrapped 1953
	1831	"	"	"	"	1933	"	In Service
	1832	"	"	"	"	1932	"	Scrapped 1953
	1833	"	"	"	"	"	"	In Service
	1834	"	"	"	"	"	"	Scrapped 1947
	1835	"	"	"	"	1933	Wood	" 1953
	1836	"	"	"	"	1932	"	In Service
	1837	"	"	"	"	"	Steel	Scrapped 1953
	1838	"	"	"	"	1933	"	In Service
	1839	"	"	"	"	1932	Wood	Scrapped 1953
	1840	"	"	"	"	"	Steel	"
	1841	"	"	"	"	"	"	In Service
	1842	"	"	"	"	"	Wood	Scrapped 1953
	1843	"	"	"	"	"	"	In Service
	1844	"	"	"	"	"	"	"
	1845	41,700	200	K43F2	TC-9	1932	Steel	"
	1846	"	"	"	"	"	Wood	"
	1847	"	"	"	"	"	Steel	Scrapped 1953
	1848	"	"	"	"	"	"	In Service
	1849	"	"	"	"	1933	Wood	"
	1850	"	"	"	"	1932	"	"
	1851	"	"	"	"	"	Steel	"
	1852	"	"	"	"	1933	"	"
	1853	"	"	"	"	1932	Wood	"
	1854	"	"	"	"	1931	Steel	"
	1855	"	"	"	"	Not	Wood	To Anoka 1917

DISPOSITION OF CARS 737-1855

DISPOSITION OF 1,128 T.C.R.T. STANDARD CARS:

1903 1 car Demolished by freight train: 859
 1905 1 car Sold to Duluth: 1043 (number repeated)
 1906 4 cars Sold to Duluth: 1108-1111
 1911 4 cars Sold to Duluth: 1482-1485 (numbers repeated)
 1912 3 cars Sold to Duluth: 1564-1566 (numbers repeated)
 2 cars Sold to Duluth: 868-869
 1913 4 cars Sold to Aurora Elgin & Chicago RR: 782-785
 1916 1 car Sold to Anoka: 1713 (number repeated)
 8 cars Sold to Duluth: 1716, 1719, 1722, 1724, 1789-1792 (numbers repeated)
 1917 1 car Sold to Anoka: 1855
 1918 25 cars Sold to Seattle: 763, 765, 768-775, 777, 779, 786, 788, 797-799, 803-805, 807, 808, 810-812
 20 cars Sold to Tacoma: 766, 767, 776, 778, 787, 817-831
 1 car Sold to Cripple Creek Coal Co., Illinois: 899
 6 cars Sold to Duluth: 1202, 1204, 1212, 1231, 1232, 1234
 1 car Rebuilt to standard Front Exit: 1788
 1920 20 cars Sold to Winnipeg: 832-842, 844-846, 848-853
 1 car Wrecked: 1114 (Suburban car)
 1 car Burned in yards: 1258 (Suburban car)
 1 car Converted to trailer: 952 (became 1590A, later 225)
 300 cars Rebuilt to standard Front Exit: 1554-1787, 1789-1854 (order completed in 1921)
 1921 25 cars Converted to trailers: 737-761 (became 200-224)
 1922 1 car Converted to Supply Car #2: 762
 75 cars Rebuilt to standard Front Exit: 1479-1553 (complete 1923)
 1923 75 cars Rebuilt to standard Front Exit: 1404-1478 (complete 1924)
 1924 75 cars Rebuilt to standard Front Exit: 1329-1403
 1925 14 cars Destroyed in Snelling storage shed fire: 860-865, 871-874, 877, 879, 947, 951
 1928 64 cars Rebuilt to standard Front Exit: 1254, 1266-1328
 1931 1 car Rebuilt to special 1-man/2-man double end: 1230
 1932 1 car Rebuilt to special 1-man double end: 1129
 6 cars Rebuilt to special 1-man Jackson St. cars: 1124-1128, 1131
 1933 1 car Burned in yards: 1006
 1934 95 cars Sold for scrap: 764, 780, 781, 800-802, 806, 809, 814-816, 843, 854-858, 866, 867, 870, 878, 880-895, 900-946, 948-950, 953-960
 1935 31 cars Rebuilt to standard 1-man: 1219-1229, 1233, 1235-1253
 1936 148 cars Sold for scrap: 896, 897, 961-1005, 1007-1107
 1 car Converted to Supply Car #95: 1134
 30 cars Rebuilt to standard 1-man: 1186-1201, 1203, 1205-1211, 1213-1218
 1937 20 cars Rebuilt to standard 1-man: 1166-1185
 1938 33 cars Scrapped: 1135, 1139, and Suburban cars 1112, 1113, 1115-1123, 1145, 1150-1163, 1255, 1256, 1259, 1264-1265
 1 car Converted to Rail Grinder #96: 1261 (Suburban car)
 1939 16 cars Scrapped: 1130, 1132, 1133, 1137, 1138, 1140-1144, 1164, 1165; and Suburban cars 1257, 1260, 1262, 1263
 1941 9 cars Scrapped: DE cars 813, 847, 875, 876, 898; and ex-suburban Campus cars 1146-1149
 1952 1 car Scrapped: 1136 (Fair Grounds Office Car, 1936-1952)

SUMMARY: 590 rebuilt to Front Exit; 81 rebuilt to standard 1-man; 8 rebuilt to special 1-man; 3 rebuilt to work cars; 26 converted to trailers; 18 burned or wrecked; 100 sold to other lines; 243 sold for scrap; 59 scrapped by the company; total, 1,128 cars.

DISPOSITION OF 590 STANDARD FRONT-EXIT GATE CARS:

1931 37 cars Rebuilt to 1-man: test cars 1854 and 1328, and order of 35 cars: 1293-1327
 1932 100 cars Rebuilt to 1-man: numbers from 1669 to 1853
 1933 100 cars Rebuilt to 1-man: numbers from 1654 to 1852
 35 cars Rebuilt to 1-man: numbers from 1538 to 1598
 1934 100 cars Rebuilt to 1-man: numbers from 1465 to 1653
 1935 69 cars Rebuilt to 1-man: numbers from 1382 to 1624
 1942 5 cars Rebuilt to 1-man: 1487, 1490, 1491, 1500, 1516
 1945 1 car Wrecked: 1275
 1946 1 car Scrapped: 1353
 1947 1 car Converted to Supply Car #97: 1349
 15 cars Scrapped: 1331, 1334, 1361, 1363, 1365, 1372, 1414, 1428, 1434, 1445, 1447, 1456, 1477, 1481, 1484
 1948 1 car Scrapped: 1330
 1949 43 cars Scrapped: 1332, 1333, 1336, 1337, 1344, 1352, 1356, 1358, 1359, 1360, 1371, 1373, 1374, 1377-1380, 1399, 1405, 1406, 1411-1413, 1421, 1431, 1432, 1435, 1438, 1442, 1443, 1444, 1452, 1453, 1455, 1458, 1463, 1471, 1474, 1476, 1486, 1493, 1547, 1354 (Note: Bodies of 1354, 1374 and 1476 made into storage sheds, Snelling)
 1951 12 cars Scrapped: 1329, 1341, 1350, 1364, 1368, 1381, 1400, 1419, 1427, 1542, 1555, 1563
 1952 64 cars Scrapped: 1254, 1272-1274, 1276-1292, 1335, 1338-1340, 1342, 1343, 1345-1348, 1351, 1355, 1357, 1362, 1366, 1367, 1369, 1370, 1375, 1376, 1383, 1401, 1403, 1404, 1407, 1409, 1410, 1416, 1418, 1422, 1423, 1426, 1429, 1436, 1439, 1457, 1459-1461, 1472, 1478, 1483, 1514
 1953 1 car Scrapped: 1271
 1 car Body sold: 1268
 1 car Sold (given) to Seashore Electric Railway: 1267

SUMMARY: 446 cars rebuilt to standard 1-man/2-man; 1 car converted to work car; 1 car wrecked; 1 car sold; 1 car body sold; 137 cars scrapped; 3 cars remaining in service: 1266, 1269, 1270; total: 590 cars.

DISPOSITION OF 527 STANDARD 1-MAN/2-MAN CARS:

1936 2 cars Wrecked: 1610, 1629
 1937 1 car Wrecked: 1699
 1940 1 car Burned in shops: 1674
 1 car Wrecked: 1179
 1947 2 cars Wrecked: 1449, 1834
 1950 1 car Burned in yards: 1793
 1951 1 car Blown over and wrecked: 1605
 3 cars Wrecked: 1198, 1613, 1773
 1952 1 car Burned on line: 1507
 9 cars Bodies sold: 1235, 1553, 1597, 1723, 1735, 1749, 1751, 1771, 1810
 12 cars Scrapped: 1247, 1408, 1507, 1534, 1598, 1612, 1613, 1655, 1683, 1728, 1731, 1774

1953 (to November 17) Sold: 2 gatecars, 104 one-man cars, 67 PCCs; total, 173 cars.
 Burned: 1 gatecar, 1 2000, 140 one-man cars.
 Total gone in 1953: 315 cars, plus 17 work cars.

Cars
 Cars left (as of 11-17-53): 3 gatecars, 253 one-man cars, 74 PCCs, 50 work cars; total, 330 passenger cars, 50 work.

SUMMARY: PASSENGER CARS BUILT BY T.C.R.T.:

STANDARD CARS

1,128 cars built with TCRT numbers (including 17 numbers repeated)
 104 cars built for Duluth
 2 cars built for Anoka
 1,234 total standard cars built.

SPECIAL CARS

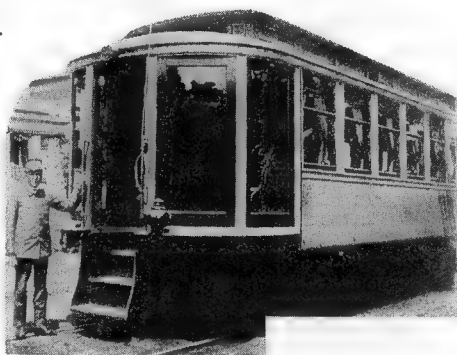
2 Incline cars built for Duluth.

LIGHTWEIGHT TYPE CARS

35 built for TCRT
 5 built for Duluth
 1 built for Grand Rapids
 50 built for Chicago (bodies only)
 10 built for Chattanooga
 10 built for Nashville
 13 built for Evansville
 124 total lightweight cars built.

GRAND TOTAL: 1,360 passenger cars built 1898 to 1928 by TCRT.

Private Car



President Lowry's private car was a single-ender; passengers in its observation end enjoyed full-length windows, one of the few times such windows were used. The car was destroyed in the Snelling fire, 1925.

SUMMARY: T.C.R.T. PASSENGER CARS SOLD TO OTHER LINES:

139 cars sold to Duluth (28 ex-TCRT)
 4 cars sold to Anoka (2 ex-TCRT)
 84 lightweight cars sold to systems other than Duluth
 4 cars sold to Aurora Elgin & Chicago, 1913
 1 car sold to Mason City & Clear Lake, 1915
 25 cars sold to Seattle, 1918
 20 cars sold to Tacoma, 1918
 1 car sold to Cripple Creek Coal Co., 1918
 20 cars sold to Winnipeg, 1920
 1 car sold to Seashore Electric Ry., 1953
 20 PCC cars sold to Shaker Heights, 1953
 30 PCC cars sold to Newark, 1953
 91 PCC cars sold to Mexico City, 1953
 440 TCRT cars sold to other lines, of which 243 had borne TCRT numbers.

PRIVATE CAR: Thomas Lowry's private car was built by Nicollet Shops in May, 1898. The last word in comfort and speed, this car was used for many years to show distinguished visitors (including President McKinley) the beauties of the Twin Cities.
 Data: Weight, 49,000 lbs. Length, 43'0"; width, 8'9"; height, 12'2"; four GE 57 motors; C-6 controller; Christensen air; Brill 5'8" trucks; 34" wheels; 28:57 ratio; wood under-frame; 7'4" inside width.

DOUBLE-END CARS AND DUMMY LINES: TCRT was a single-end company, so its few double-end cars possess unique interest. The following compilation lists TCRT's double-end cars and gives the lines which through circumstances were forced to use them. TCRT never built a double-end car new; all were rebuilt from single-enders (although pre-1898 cars built outside may have been double-end originally---records are vague).

Car DE Remarks

358	1905	Laclede 18' closed motor; B 1908
505	1905	Nicollet.
509	"	Snelling; Ft. Snelling till 1912
510	"	Nicollet.
513	"	Nicollet; stored March, 1911
516	"	Nicollet.
524	"	B 4/24/12
536	"	
538	"	Snelling; Ft. Snelling dinky at least to March, 1911; body poor, different car wanted.
1523	"	B 6/29/11
1529	"	Number changed to 529 on 3/20/12 so not to conflict with numbers of new standard cars. B 6/12.
1534	"	Was Camden Extension car March, 1911; B 4/12/12.
1511	"	Owen St. Station DE car 1905; B at Robbinsdale 1/7/07.

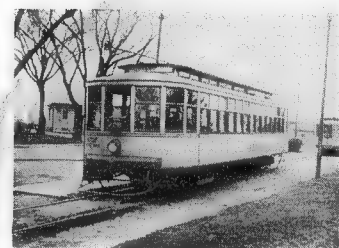
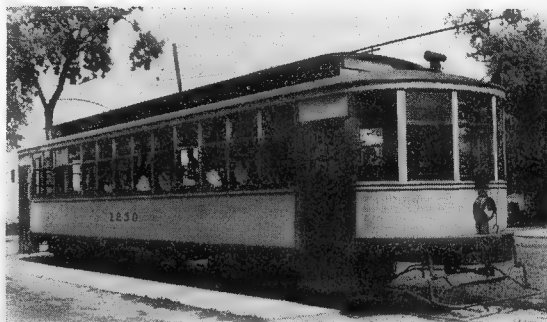
(Above cars---505 to 1511---were Northern "Dinkies," 18' closed motors; last single-truck passenger cars on TCRT. Regularly used on Robbinsdale and Camden Extension lines from Nicollet Station, and on Fort Snelling Stub line from Snelling Station.)

The following cars were used regularly on certain feeder lines built as single-track extensions to main lines, and later on short lines which could be operated most economically as shuttles. They also saw a good deal of use as shuttle cars on portions of lines cut off for sewer construction or bridge repairs. For many years during Fair Week, a DE car was sent to Stillwater to give added service on the South Stillwater line. TCRT usually tried to have a spare DE car at each station using them, or at least a spare in each city. Only their most regular uses are listed:

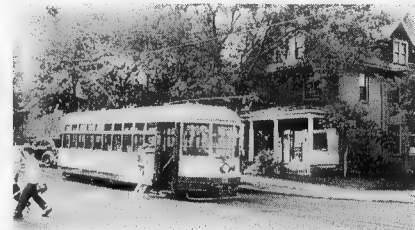
897)	1910	To East Side for Robbinsdale and Camden extensions.
898)	"	
899)	"	
890	1911	890 temporarily DE for Oak St. To Snelling to replace Dinkies on Fort Snelling stub line.
813)	1912	
896)	"	
992)	1912	Fast, big cars for new E. 25th St. shuttle (from Minnehaha & Cedar to 25th St. & 36th Ave.; used out of Lake St. Station. Later 993 transferred to East Side for Robbinsdale, 898 sent to Lake St.
993)		Temporarily DE for St. Louis Park shuttle; probably Stillwater dummy that year.
893	1913	
894	1914	Temporarily DE, spare DE car for St. Paul; shuttle run on Prior Ave. for short while.
875)	1916	For new Randolph Extension, opened June, 1916 (Snelling Station), from Snelling to Cleveland. (Main line ran on E. 7th, Randolph, and north on Snelling Ave.)
876)		
847	1920	Made DE for Lake St. Station, thus giving them one "big" DE car at each station.
1230	1931	To East Side Station to be used as Deephaven shuttle; through cars ran Sundays and some rush hour trips. One man/two man car.
1129	1932	One man car, inaugurated one-man service on Western Ave. shuttle on August 9, 1932.
3	1932	One man car, used regularly on Western Ave. with 1129 going to Merriam Park shuttle.
4	1939	One man car, sent to Lake St. as spare for 1230 on Fort Snelling.

B---Burned

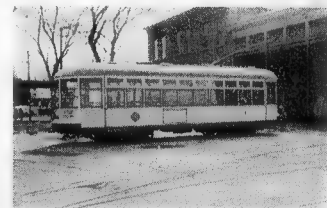
DOUBLE-END CARS



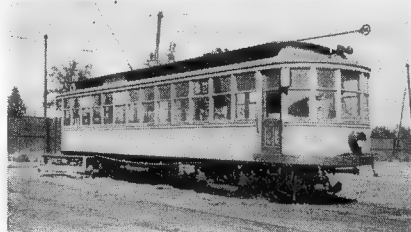
Probably the most famous of all TCRT double-enders was 1230, for many years the regular shuttle car at Ft. Snelling. In these views, 1230 is seen: in 1937 (upper left, HR); its "blind" side, 1946 (above, SM); and at the end (left, WO).



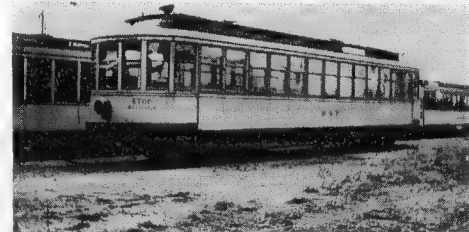
#3 on Western Ave. 3 and 1129 were true double-enders; doors at opposite corners and reversible seats. (SM)



#4 had two doors, both on the same side of the car. It had longitudinal seats---the only TCRT car so equipped. #4 is at Ft. Snelling (left, SM) and at Lake Street (RO).

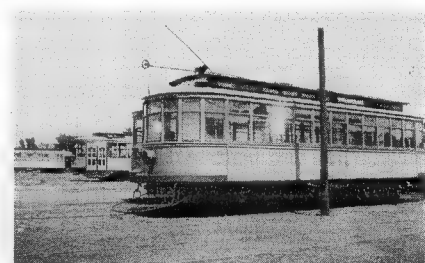
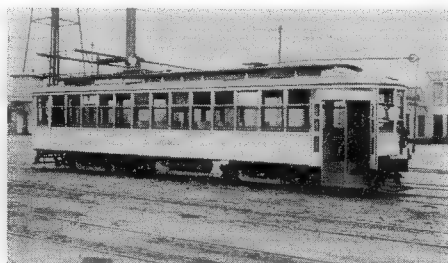


813 at Lake St. Station, 1937.



847 at Snelling Station.

1129 at Snelling Station, 1941. (KB) 876 at Lake St. Station. (KB)



LIGHTWEIGHT CARS

In 1916, under the guidance of Walter J. Smith (its Master Mechanic) TCRT decided that it would be to its advantage to build a new type car much lighter than the standard type which had been used exclusively since 1898.

If successful, such a car would make less noise, reduce track maintenance, accelerate and brake more rapidly, and reduce power consumption.

TCRT's designers found that the biggest saving in weight could be made in the trucks; with a lighter truck, a correspondingly lighter motor could be used.

The result was the two-car multiple-unit train 2000-2000A. These cars had bodies of the standard size but much lighter and had folding doors instead of the usual wire gates. The radically-designed trucks had inside journals, band brakes and two 25-hp motors each.

After an improved type truck and a new body style were designed, two-car train 2002-2003 was constructed in 1921. It was rebuilt in 1923 so that it could be operated as two single cars or as an MU train.

The next development of the light weight idea came in 1925 when cars 1-4 were built by the Light Weight Noiseless Electric Street Car Company for the Stillwater local lines. These cars were shorter but otherwise generally similar to 2002-2003.

In 1927 TCRT finally evolved what became its standard lightweight passenger car when 2004-2030 were constructed in its shops; 2004-2011 in December 1927, 2012-2030, January 1928.

2000 and 2001 were the only 2000s to have deck roofs, and 2002 & 2003 were the only ones to have the high arch roof. 2000-2005 as rebuilt for single-unit operation after having been MU, and 2006-2030 as built new, were equipped for either one-man or two-man operation. The rear doors were handled by the conductor from toggle switches mounted on a post adjacent to the fare box. Two-man operation prevailed until 1930.

2000 & 2001 were originally heated by a coal stove on the front platform, but were given electric heaters when rebuilt. 1-4 & 2002-2030 had electric heaters from the very start.

Whistles on all the lightweights were beneath the front platform and operated by a foot pedal.



Above: Cars 2002 and 2003, photographed shortly after their completion in 1921. Originally cars 2001, 2003 and 2005 were true "B" units (to speak in "Dieselese"); they contained motors but no controls or trolleys.

Assignments: 1-3: Stillwater local lines, 1925-1932; 4: Stillwater local lines, 1925-1930; 4: Cedar Ave. shuttle, 1930-1933; 2: the Western Ave. shuttle (St. Paul), 1932-1941; 1,2,4: Franklin-11th St. (crosstown), 1933-1935; 1,2,4: Bryn Mawr, 1935-1939; 1,2: Broadway Crosstown, 1941-1949 (disused 1939-1941); 4: Ft. Snelling shuttle (spare car), 1939-1952; 2: No regular assignment after 1941.

The 2000s were assigned as follows: Grand-Monroe and Broadway Crosstown in Minneapolis to 1950; 34th Ave. S., 1950-1952. In St. Paul: Snelling Crosstown, Rondo-Maria, Maria-Ft. Snelling-47th Ave., St. Clair-Payne, Rondo-Stryker, and Grand-Mississippi.

Below: TCRT's first experimental lightweight train: cars 2000 & 2000A (later 2000B), in 1916. 2000-2005 rebuilt to single units, 1928.



ROSTER OF LIGHTWEIGHT CARS OF TWIN CITY RAPID TRANSIT COMPANY:

Number	Built	Builder	Weight	Length	Width	Height	Seats	Motors	Controller	Air	Trucks	Ratio	Floor-Rail	Class	Scrapped
2000-2001	4-3-16	TCRT	28,000	46'0 $\frac{1}{2}$ "	9'1"	10'6"	49	GE 258	GE K-75	GE CP	27 TC-12	15:72	32"	M-9-L	1952 1950
2002-2003	11-15-21	TCRT	28,000	46'0"	9'0"	10'8"	49	GE 258	GE K-65	GE CP	25 TC-12	15:72	32"	P-14-M	1950 1952
1-4*	4-25-25	LWNS	24,400	35'10 $\frac{1}{2}$ "	9'0"	10'5 $\frac{1}{2}$ "	42	GE 200	GE K-28	AAL	TC-12	15:72	34"	A	1949*
2004-2005	7-15-26	TCRT	29,480	45'6"	9'0"	10'1 $\frac{1}{4}$ "	49	GE 258	GE K-67	GE CP	25 TC-12	14:73	32 $\frac{1}{2}$ "	Standard	1950 1952
2006-2011	12-27	TCRT	29,480	45'6"	9'0"	10'1 $\frac{1}{4}$ "	49	GE 258	GE K-75	GE CP	25 TC-12	14:73	32 $\frac{1}{2}$ "	Standard	1952
2012-2030	1-28	TCRT	29,480	45'6"	9'0"	10'1 $\frac{1}{4}$ "	49	GE 258	GE K-75	GE CP	25 TC-12	14:73	32 $\frac{1}{2}$ "	Standard	1952

* Specifications for cars 1-4 are as single-end cars; when 3 & 4 were made double-end their weight went up to 27,400 lbs.

* Car 4 scrapped 1952

All Cars: All the lightweights had the following common items: 7" trolley wheel, four motors (25 hp each), 26" steel wheels, cross & longitudinal seats, incandescent head light, electric tail light, air operated folding doors, steel underframe (except duralumin on cars 2006-2030), width of aisle 2'5", inside width 8'5-3/4", and drop platforms (except 1-4, flush platforms).

TC-12 Trucks: Weight without motors 4,000 lbs.; Hyatt roller bearings, inside journals, concentric clasp axle drum brakes, 5'3 $\frac{1}{2}$ " axles (hollow), rubber discs bolted in alternate holes in web of wheels to reduce noise.

Original couplers on lightweight trains 2000-2000A, 2002-2003 were hollow tubes in which were carried control cables.



Above: Car 4 on Cedar Ave. shuttle line on May 18, 1930---the first day of one-man operation in Minneapolis. (MS)

Below: 2002 at Snelling Station, 1948; note TCL emblem on side---first used in 1947 on PCC cars. (CS)



Top Left: 2005 in the classic front three-quarter pose. (DJ)

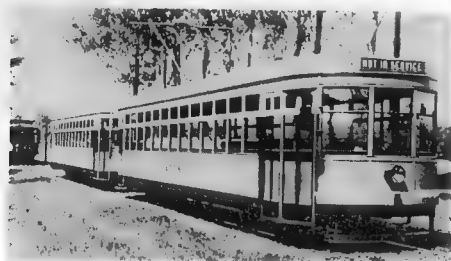
Center Left: 2024 at Snelling shops, showing details of rear door and end. (TCRT)

Above: 2022 at Snelling Station exhibits the lightweights' blind side. (TCRT)



Left: 2001 at North Side Station about 1947. (CS)

Lower Left: Train 2004 & 2005 in 1926. (BN)



Right: Building car 2005, 1926. This was last car to be equipped for MU operation. (TCRT)



The Lightweight Noiseless Electric Streetcar Co.

TCRT's experiments with constructing its own lightweight cars aroused widespread interest in the transit industry. Because of the satisfactory results of the experiments a consulting engineer of Chicago, A. L. Drum, thought that a ready market could be found for such cars throughout the country. So in 1924 the Light Weight Noiseless Electric Street Car Company was organized with offices in Chicago. A. L. Drum was president; E. M. Maddox of Chicago, vice-president; R. C. Choate of Minneapolis was another vice-president; A. J. Chaleen, formerly of TCRT, was master mechanic. The company advertised to build cars to any other company's designs and specifications, or supply its own types.

These advertisements (see reproduction) stated that "We have developed two types of lightweight double truck cars, as follows: Car A, designed for one-man or two-man operation as single units, or for three-man operation as a two-car train, with 46'10" over all length, a weight of 26,000-28,000 lbs., seats for 48 as a two-man car or for 54 as a one-man car, and 105 as a two-car train. Car B, designed for one-man or two-man operation as a single unit, with an over all length of 37'6", a weight of 22,000-24,000 lbs., and seats for 43 passengers."

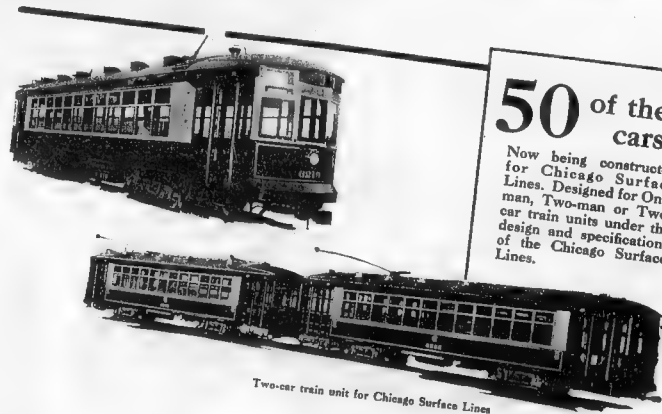
It is not quite clear just how LWNESCCo. and TCRT were connected. LWNESCCo. stated that its shops were located at Snelling & University Aves. in St. Paul (which were TCRT's shops). It advertised the lightweight truck designed by W. J. Smith for TCRT as the W. J. Smith #12 truck (TCRT named it the TC-#12 truck). Car A was TCRT 2002-2003. Who developed car B is not known.

At any rate, a contract was let in 1924 for fifty car bodies for Chicago Surface Lines to their designs and specifications. Twenty cars were for the Chicago City Ry. and thirty for Chicago Railways Co. All of these cars were multiple-unit, numbered 6219-6238 and 3232-3261, weighing 42,000 lbs.

In its advertising, LWNESCCo. stated that it was also building ten lightweight noiseless cars: four for Stillwater, Minn. (TCRT), five for Duluth, and one for Grand Rapids. These were all to be 37'6" long. Duluth's cars were used on the Superior, Wisconsin, lines. The Grand Rapids car came about due to a carbarn fire in July, 1924, that burned forty of GR's old cars. That company began planning for a lightweight special car to re-equip and modernize its system. As a result, three car builders who submitted designs and bids (Kuhlman, St. Louis, LWNESC) were authorized each to build one sample car. LWNESC got its order on September 23, 1924, and the Grand Rapids sample car was added to nine for other cities. The whole group started through Snelling shops on October 20, 1924, and the Grand Rapids car was completed in March, 1925, with the others emerging the following month. It was originally intended to number the GR car 375 and have a LWNESC emblem on the sign but this idea was discarded and the name "Minnesota" decided upon. After seeing five months of service on the GR some changes were made: deluxe individual double bucket seats, rubber tile floor covering and skirts were installed. The GR car was different from the Duluth and Stillwater cars in that the vestibules were shorter on the latter and a different platform arrangement was used. All of these ten Shorties had Smith #12 trucks.

Many companies evinced considerable interest in the LWNESC cars and several inquiries were received in regard to the building of cars; quotations were made for Lancaster, Pa.; Johnstown, N.Y.; and Brooklyn, N.Y. Brooklyn wanted cars similar to TCRT 2002-2003 and the Chicago cars.

However, the only other cars manufactured by LWNESC in TCRT's Snelling shops were 33 for Nashville and Chattanooga, Tennessee, and Evansville, Indiana. The Tennessee Electric Power cars were #131-140 for Chattanooga, and #600-609 for Nashville. 131-140 weighed 29,000 lbs. and were named, such as 131-Chattanooga, and 137-Lookout Mountain. 600-609 weighed 28,800 lbs. and were also named: 600-President Andrew Jackson, 608-David Crockett, etc. The Evansville cars were #401-407 double end, weighing 28,300 lbs., and #408-413 single-end, weighing 26,750 lbs. These were named also: 408-George Rogers Clark, 411-Francis Vigo, etc. All had Smith #12 trucks. These were built during August-October, 1926.



50 of these cars

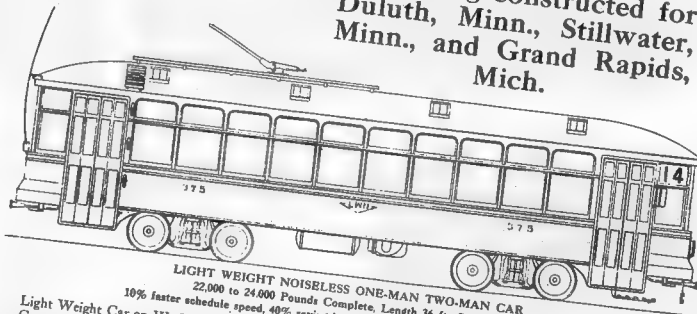
Now being constructed for Chicago Surface Lines. Designed for One-man, Two-man or Two-car train units under the design and specifications of the Chicago Surface Lines.

Two-car train unit for Chicago Surface Lines

Completely equipped shops for building cars of your design and specifications.

10 LIGHT WEIGHT NOISELESS CARS

now being constructed for Duluth, Minn., Stillwater, Minn., and Grand Rapids, Mich.



LIGHT WEIGHT NOISELESS ONE-MAN TWO-MAN CAR
22,000 to 24,000 Pounds Complete. Length 36 ft., Seats 43
10% faster schedule speed, 40% saving in power compared with standard weight car

Light Weight Car on W. J. Smith Noiseless Light Weight Trucks equipped with Hyatt Roller Bearings and Concentric Clasp Axle Drum Brakes provides Faster Acceleration, Faster and More Coasting, Faster and More Comfortable Braking, resulting in Faster Schedules, with greatly reduced Power Consumption and Less Automobile Interference.

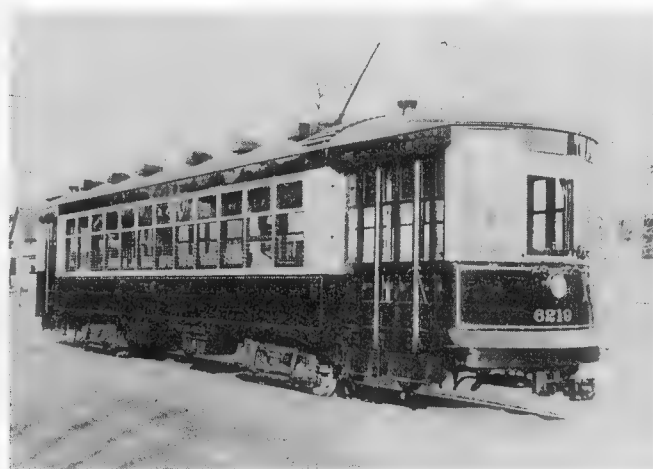
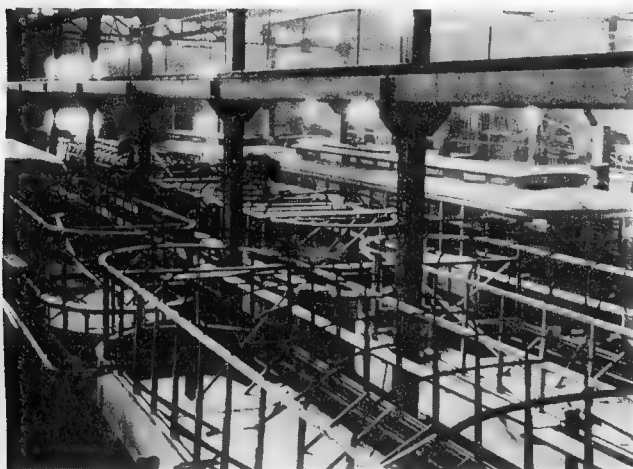
"Send Us Your Specifications"

Light Weight Noiseless Electric Street Car Company
1745 Illinois Merchants Bank Building, CHICAGO
Manufacturers of Electric Street Cars
Shops at St. Paul, Minn.

These were the last cars sold by LWNESC, although the company was still in existence in 1927 to supply parts. The exact circumstances of the rise and fall of LWNESCCo. are not known, nor are the exact dates of organization and dissolution. All of these cars were built under contract with TCRT's subsidiary, Transit Supply Company.

The above advertisement appeared in the January 3, 1925, issue of Electric Ry. Journal.

Photo at top shows completed Nashville cars ready to leave the Snelling shops in 1926.



Above: Chicago car 6219 in St. Paul in 1924.

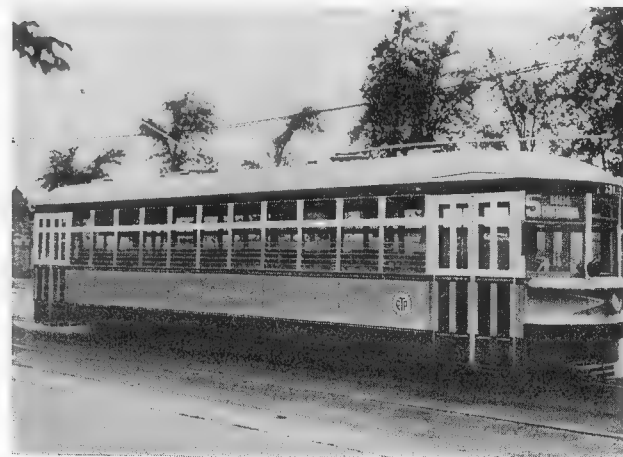
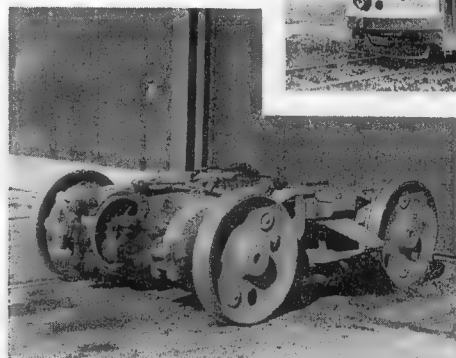
Top Left: Building the Chicago cars at Snelling shops, 1924.

Left: Duluth car 301 in St. Paul, 1925.



Above: TCRT 4 at Ft. Snelling, 1941. (Hanft)

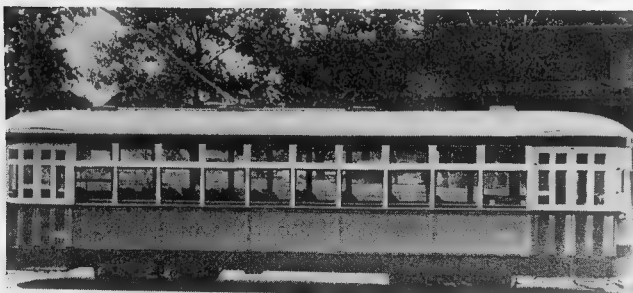
Left: The famous #12 truck, used under LWNSC cars as well as under TCRT's own lightweights. It had a 4'6" wheel-base.



Above: One of the Chattanooga cars at St. Paul, 1926.

Above Left: Interior of a Chicago car.

Left: An Evansville car at St. Paul, 1926. The Grand Rapids car was generally similar.





P.C.C. CARS

Left: PCC car 322 on University Ave. on the interurban line between Minneapolis and St. Paul; 1951.

Lower Left: 398 on the Nicollet-2nd St. NE line, 1951. (FH)

Below: Front view of a TCRT PCC car at St. Louis Car Company.



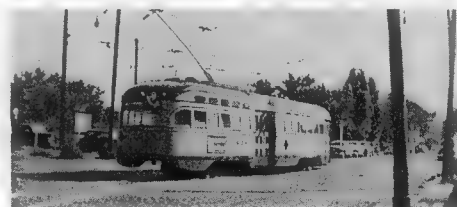
CARS	ORDERED	REC'D.	WEIGHT	MOTORS	CONTROL	TRUCKS	EQPT.	LENGTH	WIDTH	HEIGHT
299	12-44	2-45	35,830	1432F	West.	Clark B2	W.	46'0"	8'4"	10'0 1/2"
300-319	5-45	12-46	37,990	1432J	KG-99	"	W.	46'5"	9'0"	10'3"
320-339	"	"	"	1220E1	"	"	GE	"	"	"
340-364	4-46	7-47	"	"	"	"	GE	"	"	"
365-389	"	"	"	1432J	"	"	W.	"	"	"
390-414	1-47	6-49	"	1432J	"	"	W.	"	"	"
415-439	"	"	"	1220E1	"	"	GE	"	"	"

300-439: Single unit, single end, 55 seats (except 300-339, 53 seats), all-electric, back-up control, motor cut-out switches, 55 hp. 300-volt motors, exterior dash lights, drum brakes interlocked with center doors, no treadles, 25-lb. gong, Klaxon horn, overhead fans & monitor for pressure ventilation, standee windows, hand-cranked windows.

Car 299: This car was ordered on Pittsburgh Railway Company's order for 65 cars (1500-64). Car 1547 was diverted from that order and shipped direct to TCL from the builder; another car was built on the order for Pittsburgh, thus constituting a delay in the filling of the order for the full 65 cars. The car shipped to Twin City Lines was modified to two-man operation and renumbered 299. For 22 months it was the only PCC in the Twin Cities and underwent considerable experimenting, the results of which were embodied in cars 300-439. 299 is not all-electric, using air for braking to a stop from speeds of 4-5 mph. at which point the dynamic brake loses its effectiveness. Extended dynamic braking on 300-439 is effective almost to zero speed, with a drive shaft brake completing the stop and acting as a parking brake; this friction brake is spring applied and electrically released.

Motors: All cars have four motors, each rated at 55 hp. This gives the PCC car more horsepower per ton of weight than any other type of streetcar (12.5 lbs. per horsepower for PCC cars versus 30-50 lbs. per horsepower for conventional cars). Motors are force ventilated, reducing operating temperature, excluding dirt and moisture, increasing the life of the windings and lowering maintenance.

All cars built by St. Louis Car Company, St. Louis, Mo.



434 at East Side, 18 Aug 50. (EHN)

PCC cars were a long time coming to the Twin City Lines, but when they finally arrived they came in the form of one of the finest vehicles for local transit yet designed.

The transit industry authorized research for a modern, streamlined and agile streetcar in 1931; five years later this radically different vehicle, known as the Presidents' Conference Car (PCC) was ready for mass production. Hundreds of PCC cars, following closely the original design (although modified somewhat in certain instances), were in service by the time World War II involved the United States. In 1945 it was again possible to resume research, and the result was the all-electric PCC car which embodied important mechanical and structural improvements. This super-PCC was evidently what TCL had been awaiting, and soon the PCC came to the Twin Cities in force.

The first step was the purchase of a test car. This was diverted to TCL by the builder (St. Louis Car Company) from an order then being built for Pittsburgh. Pittsburgh PCC 1547 arrived at Snelling Shops in January, 1945, and was renumbered TCL 299. After running on several lines under varying climatic conditions, TCL satisfied itself that the PCC car could meet its operating conditions satisfactorily.

In May, 1945, TCL ordered forty all-electric PCC cars of extra width from the St. Louis Car Company. On Thanksgiving Day, 1946, car 300 arrived at Snelling, resplendent in the TCL colors of canary yellow and deep forest green trim. The 300 was the first of 140 all-electric PCCs and epitomized the start of the company's \$20,000,000 modernization program.

299-339 could be operated one-man or two-man and seated 53; the others were one-man only and seated 55.

As of 1951, PCCs were assigned thusly:

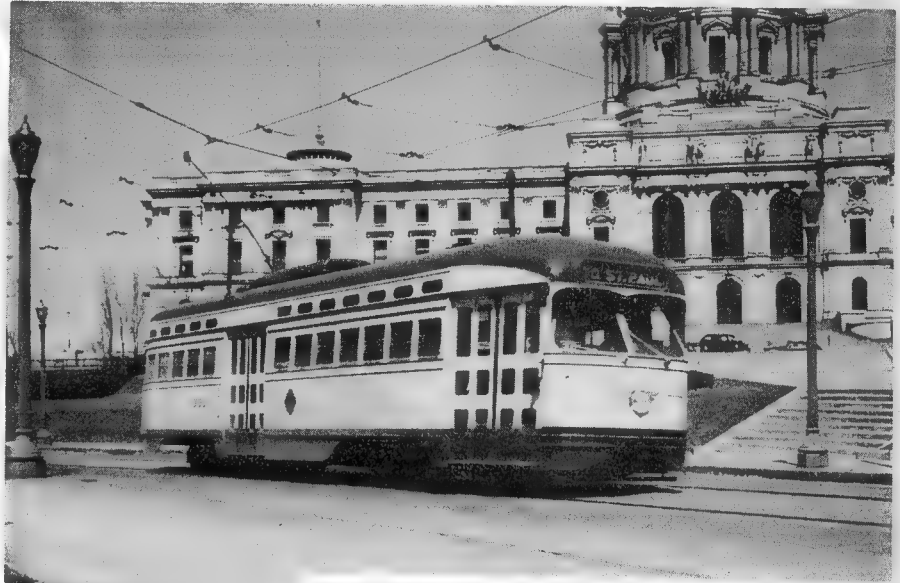
Snelling Station: University Ave.
Grand-Mississippi
St. Clair-Payne-Phalen
Hamline-Cherokee Hts.
Glenwood-4th Ave. South
Nicollet-2nd St. N.E.

**East Side & Bryant-Johnson
Nicollet:** Grand-Monroe

East Side Station: Bloomington-Columbia Heights (partial)

After abandonment of St. Paul lines in 1952, PCCs gave partial service on Como-Harriet and Oak-Harriet lines.

The 1949 change of management reoriented TCRT vehicle policy; the new officials were bus-minded through and through and, notwithstanding the excellent performance record of the PCCs, decreed that they must go. Their disposal is related on the following page.

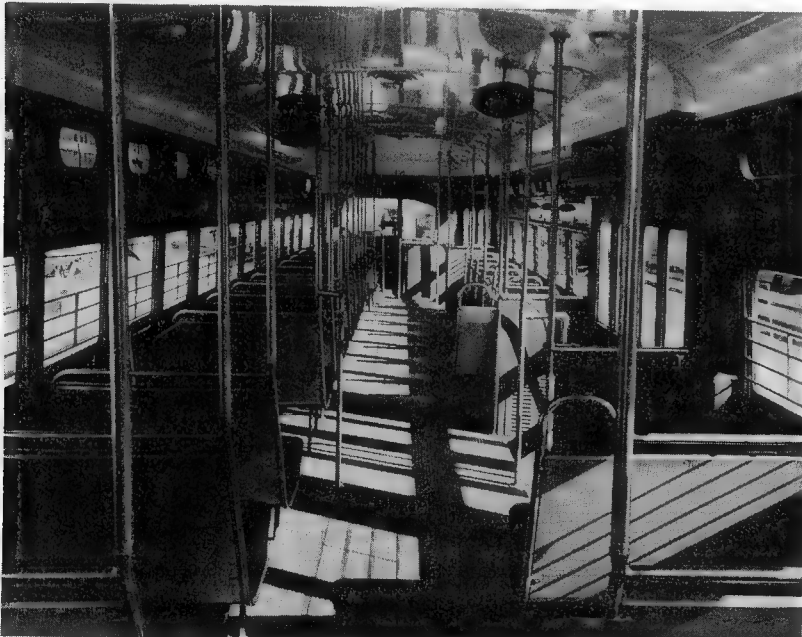


Above: PCC 331 at speed passing the state capitol in St. Paul.

Right: Unloading car 300 on November 29, 1946—first of TCL's own PCC cars.

Below: Interior of a TCL PCC when arranged for two-man operation. Note the conductor's seat and transfer box. (StL)

Lower Right: A typical newspaper spread welcoming the PCCs.



THE MINNEAPOLIS STAR and JOURNAL

MINNEAPOLIS, MINN., THURSDAY, DECEMBER 19, 1946

★ 21



NO TOKENS NEEDED—Hundreds of Minneapolis residents tried out the comforts of the city's new streetcars today free of charge. Four of the new "streamliners" operated through the loop, carrying all who cared to get aboard. Similar free rides were provided in the St. Paul loop by four other cars. The eight new cars will go into service during the rush hour today on the Minneapolis-St. Paul line. Picture shows the first group to board one of the cars for the trial spin.

SALE OF P.C.C. CARS: With the decision to end all rail service, the TCRT management was confronted with the problem of realizing as much as it could from its investment of more than \$4 millions in its 141 PCC cars. The cars were put up for sale, but because of their 9' width, buyers were limited to a handful of companies.

The first such company to avail itself of the opportunity to purchase virtually new PCC cars at a bargain price was the Shaker Heights Department of Transportation, operating the ten-mile rapid transit line between Shaker Heights and Cleveland, Ohio. Already operating 25 all-electric PCCs of 9' width in train service (comprising about half of its total rolling stock), the municipally-owned rapid transit line thus seized the opportunity to standardize 100% on PCCs.

The second purchaser turned out to be the Public Service Coordinated Transport Company of Newark, New Jersey. Thirty TCRT PCCs were purchased to serve in the Newark Subway, the first new rail vehicles bought by that company since 1917. To accommodate these single-end cars, PSCT constructed a loop at the end of the subway at Franklin Avenue.

The remaining 90 all-electrics and the original PCC, 299, were purchased by Mexico City (Servicio de Transportes Electricos del Distrito Federal). The Mexican Government in late 1952 authorized the expenditure of \$1½ millions to modernize and expand Mexico City's electric railway system; the first reports had it that Pacific Electric's 5050 Class cars were to have been purchased but a delay occurred in the transaction and in the meantime TCL's PCCs stole the show. Mexico City originally wanted doors on both sides of the cars, but TCL was successful in persuading the purchaser that it would be easier to move a few station stops than to rebuild all 91 cars.

By the first day of 1954, certainly, there should be no PCCs in service in the Twin Cities. TCL will end up with its own old cars, but even they will only have a few more months to run.

TCL No. Sold To New No.

299	Mexico	2299
300-319	"	2300-2319
320-339	Newark	1-20
340-359	Shaker	51-70
360-364	Newark	21-25
365-414	Mexico	2365-2414
415-419	Newark	26-30
420-439	Mexico	2420-2439

Shaker Heights Cars: Twenty cars, 340-359, were purchased in January, 1953, to be completely rehabilitated and repainted by TCRT. The new numbers were 51-70, with cars renumbered in order. Five were for single-unit operation (51-55) while the remainder were rebuilt by TCRT for train operation (56-70). All twenty received 26" wheels. All labor and new materials were furnished by TCRT, except for equipment for train operation which was supplied by SHRT. Work consisted chiefly of rewiring and adding equipment for train control, almost no body work being involved. Master controllers had to be rebuilt, line breakers changed, and coupling equipment and new signal systems installed. The back-up control was changed and front doors were arranged for individual operation. New Ohio Brass trolley retrievers replaced TCRT's trolley catchers. TCRT even made the new destination signs. The cars were repainted to conform to Shaker Heights' own PCCs, 71-95. TCRT reportedly received \$16,224 each for these cars, including cost of rebuilding. On September 17, 1953, four of the single-unit cars were shipped from Snelling Shops. All cars: GE equipment.

Newark Cars: On March 30, 1953, Public Service Transport Co. of Newark, New Jersey, ordered thirty cars, all with GE electrical equipment. Minneapolis papers listed a sale price of \$10,000 each. These cars were merely put in good running order by TCRT, with no equipment changes and no repainting. First to arrive in Newark was the 360; on August 12 it was unloaded at PSCT's Lockwood Street yards.

Mexico City Cars: In August, 1953, TCRT contracted to sell all 91 remaining PCCs to Mexico City. 71 of these had Westinghouse electrical equipment (299-

DISPOSITION OF P.C.C. CARS

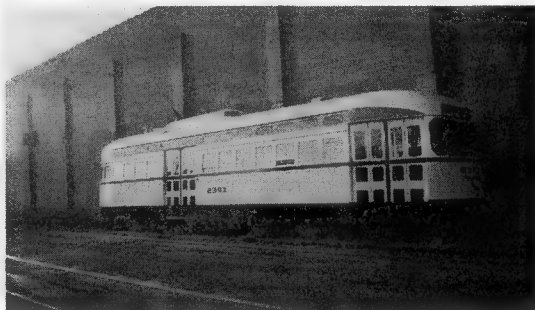


The 30 TCRT PCC cars which are now operating in the Newark Subway will provide speedy, comfortable transportation for many years. This line provides commuters to Newark and New York with free parking, 10¢ fare and a fast, convenient connection with Pennsylvania Railroad trains. In the above photo we see PSCT's #21 (ex-TCRT #360) in its new blue & gray colors. The PCCs replaced 1917-model cars on the 4-mile line.



Shaker Heights' #54 (ex-TCRT 343) is shown here (left) at Snelling Station, and (right) ready to leave for Cleveland. (JS)

(Right) Mexico City's #2391 ready to leave Snelling for a new service career. It formerly was TCRT's 391. (JS)



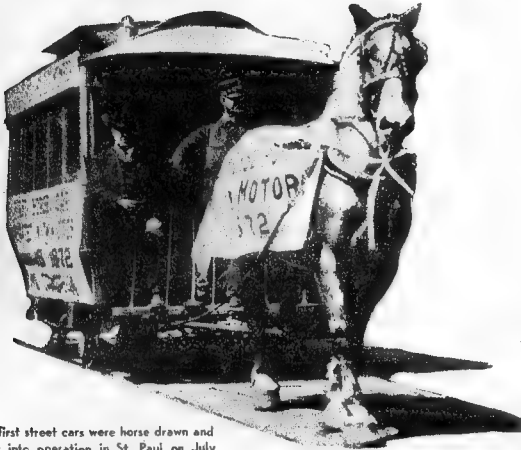
319 and 365-414) and 20 had GE equipment (420-439). These cars were rehabilitated and repainted by TCRT but no changes in equipment were made. The repainting saw these cars receive a light cream body and roof, with green for the skirts and for the panels in which the standee windows are set. The Mexico City numbers consist of a "2" prefixed to the old TCRT numbers, providing for easy reference to the cars in dealings with the St. Louis Car Company. This means there will be gaps in the Mexico City roster due to cars sold to Ohio and New Jersey. The first car was specified to be in Mexico City by Labor Day, and TCRT thereafter shipped them south of the border one per day.

LAST MINUTE NEWS: As we go to press, the latest news received from the Twin Cities is to the effect that:

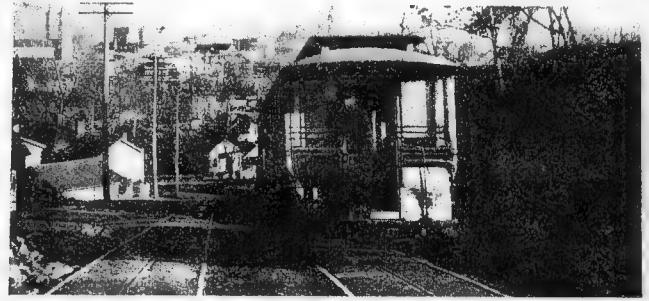
As of November 17, 1953, 67 PCCs have been shipped; these are: Newark, 30; Mexico City, 32; Shaker Heights, 5. The Shaker Heights train cars will be the last to be shipped, due to the extensive work they require.

As of November 17, 1953, only 19 PCCs remained in service and these were being withdrawn as fast as standards could be fixed up to replace them. After November 6, 1953, the remaining PCCs were used on the 4th Ave. line only. All will probably be off this line by December 1, 1953.

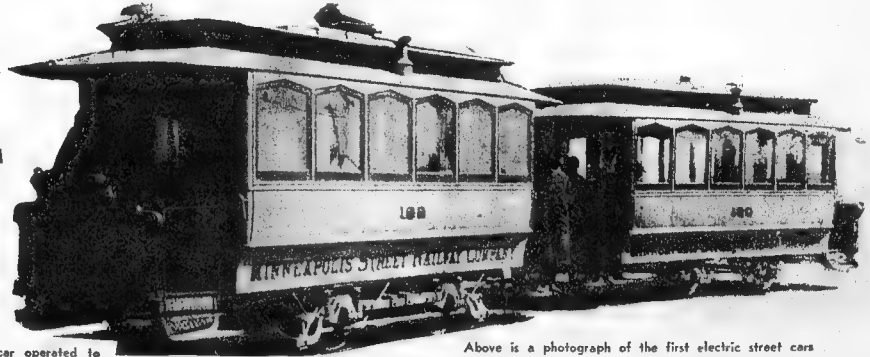
FROM 1872



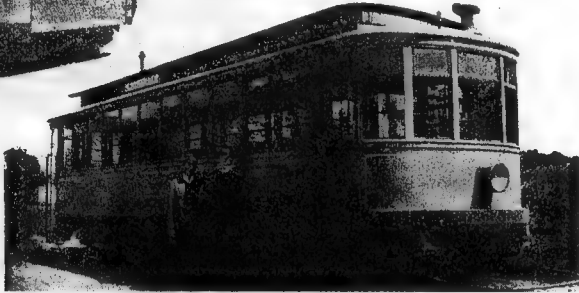
The first street cars were horse drawn and went into operation in St. Paul on July 15, 1872. The first car started at 4 p. m. on 4th and Wabasha over a track a total of 2 miles long. The street car company consisted of six cars, operated by 14 men and 30 horses.



St. Paul was famous for its cable lines over half a century ago. In 1887, the first line was built from Broadway to St. Albans, running along Fourth, Third, and Selby, and the line was put into operation by January 16, 1888. Another cable line along East Seventh from Broadway to Duluth ave, commenced operation June 14, 1889. The above photograph shows the cable line, looking down the Selby hill. The Selby Tunnel brought electrification to the line.



The above double-decker street car operated to Lake Minnetonka in 1906. This was a part of the longest line in the system, extending westward to Tonka Bay on the western shores of Lake Minnetonka. The double-deckers proved so weighty, eventually, that street car officials junked the cars because of wear on trolley wire and rails. The cars, after having their upper stories removed, were put into service as regular street cars.



Here is pictured an early electric street car much in use in both St. Paul and Minneapolis in the 1880's and 1890's. It was shorter than most cars seem today, and at one time this particular car was a double-end car. It was used in later years as a "special" to the University Football field. Notice the silver stripe lines on the baseboards which are now discontinued.



The new, modern, streamlined street cars are practically noiseless. They are a part of the tremendous modernization program of the Twin City Lines. Twin City Lines is an organization of neighbors of yours and good citizens who recognize their responsibility to serve the public graciously and well, and who make a constant effort to give service which is a credit to the communities.

TO 1949

Form 552 TCL

CAR DEFECT REPORT

CAR NO. 107 DATE 19 STATION 1

AIR SYSTEM	PUMP	PRESSURE	WHISTLE	GONG
	FRONT AIR VALVE	AUXILIARY VALVE	REAR AIR VALVE	
BRAKES	SLACK	TIGHT	SLOW	HAND BRAKE
	ELECTRIC	Buzzer	BUTTONS	OVERHEAD
BELLS	RESISTANCE	LINE BREAKER	CONTROLLER ROUGH	CONTROLLER DRY
	MOTOR TROUBLE	REAR END CONTROL	CONTR. FINGERS B.O.	
POWER SYSTEM	DOORS AND GATES	B. O.	TROLLEY	B. O.
	FRONT	REAR	BULK HEAD	PLUNGER
GNS	AGED DOORS	WINDOWS	HEATING SYSTEM	TRUCKS
	ELEC. HEATERS	FIRE OUT	GASSY CAR	DAMPER
TROLLEY	CAR WILL NOT HEAT	BODY DAMAGE	BROOM	WIRE PICK-UP
	OPERATORS SEAT	CAMEL BACK	CURTAINS	DIRTY CAR
HEATING SYSTEM	DRAW BAR	SAND	SAND HOSE	COAL SHOVEL
	SNOW SHOVEL	TCH ROD	H ROD	
TRUCKS	FLAT WHEELS	NOISY TRUCK	HOT JOURNAL	GEARS
	LIGHTS	INSIDE	HEAD LIGHT	TAIL LIGHT
LIGHTS	FARE BOX	GUARD RAIL	HAND STRAPS	SCRAPERS
	SEATS	FRONT STEPS	REAR STEPS	VENTILATORS
REPAIRS	WIND SHIELD WIPER	1ST OPERATOR	2ND OPERATOR	3RD OPERATOR
	REPAIRED BY	A.M.	P.M.	

SERVICE CARS •

Trucks, motors and controllers of work cars were continually being changed, as on passenger cars; and where some short notes on these are included here, it is not intended to imply that the work cars did not have different equipment at other times.

Most work cars were operated by shomen or crews of the Maintenance of Way Dept.

Trainmen operated snow plows, sand cars and the baggage car regularly, and other work cars at special times. East Side trainmen were occasionally called on to operate the U. of M. work car.

Most TCRT work cars were painted box car red, with white lettering. Snow plows were painted according to the passenger car paint scheme, with all plow machinery a dark green. Baggage car 34 was painted like passenger cars. Sand cars 43-45 were painted yellow above the belt rail and a dark green below, with tuscan red sash and roof.

THE EARLY ELECTRIC WORK CARS: Many single-truck passenger cars served their later years as work equipment, without having their numbers changed. They were used as sand cars, flat trailers, wreckers, coal and ash cars, etc. Of the regular work cars, there was a separate numbering series for each different type; this had some effect on present work car number series. Those listed here were on record in 1904.

Early Snow Plows---Bemis DT, 4 WP motors, 4 Sprague motors for the rotary, hand brakes; length 25'8", width 6'10". Many used for other jobs in summer. #1 "Mogul" TCRT, others built by TCRT. Wood underframe, vestibules on front end.

- | | | |
|----|---|---|
| 1 | Burned 4-29-08 | |
| 2 | " 7-24-11 | |
| 3 | " 4-14-08 | |
| 4 | " June-12 | At Midway in 1904;
Track Dept. plow, #10 |
| 5 | " 4-29-08 | |
| 6 | " 4-16-08 | |
| 7 | " 4-14-08 | |
| 8 | " " | |
| 9 | " 4-16-08 | At Midway in 1904 |
| 10 | " 4-29-08 | |
| 11 | " 4-14-08 | |
| 12 | " 4-19-08 | |
| 13 | Rebuilt as work car 4-1-12, renumbered A13; had weed cutter on front end. Used as rail grinder in 1911. D, #36 | |
| 14 | Same as 13; renumbered A14. Had big tank for spraying calcium chloride on switches. Destroyed in Snelling fire 8-17-25. | |
| 15 | Burned 4-19-08 | |
| 16 | Sold to Aberdeen, 12-1-10 | |
| 17 | Burned 4-29-08 | |
| 18 | " June-12; rail grinder in 1910 | |
| 19 | " 4-29-08; at East Side, 1904 | |
| 20 | Rebuilt to Locomotive #20 in new number series, 8-10-07 | |

Sweeper---No number. "Smith Ave. Sweeper." Stored at 7th St., 1910. 28'3" long, 7'2" wide, McGuire trucks, 33" wheels, 2 WP motors, 1 SRG for broom. Burned 6-12.

Oil Car---#1. 22'6". Hand brakes, 33" whls, 2 motors. Burned 11-30-12.

Wire Cars---#1: Built by TCRT. Bemis ST, hand brakes, rheostat controller, 2 Sprague motors. East Side wire car for some time. Destroyed completely on 5-8-10 when burned at Snelling---boys turned on current while brakes set.

#2: Equipped like #1. Owen St. wire car in 1910. Burned 4-24-12. (Modern wire cars 3, 4 and 5, built 1905, were numbered as part of this wire car series.)

Supply Cars---#1. 24' long. Built by TCRT in 1891 at Nicollet.

#2. Converted from Northern ST passenger car, 5-8-03. Rebuilt 4-19-12, getting air brakes, sliding door to cab, electric heaters. Burned in Snelling fire, 8-17-25. Before this car was destroyed, it was replaced (1922) by another Supply Car #2.

Wreckers---#1: 20'4". Bemis ST, hand brakes; 2 SRG motors, K-11 controller. East Side wrecker. Burned 4-12.

#2: Same data as #1. Midway wrecker; to Smith Ave. 1-21-07; at 7th St. in March 1910. Burned 4-24-12.

#3: Bemis ST, 2 Sprague motors. Smith Ave. wrecker in 1904. Burned June 1912.

Work Car Flats---#1: Bemis ST, 2 Sprague; burned June 1912.

2. Bemis ST, 2 SRG; burned 9-29-08.
3. 22'1. Bemis ST, 2 SRG, " 9-29-08.
4. 22'1. Bemis ST, 2 Sprague; B 9-29-08.
5. Bemis DT, 2 WP. Burned 10-2-08.
6. Bemis DT, 2 WP. Burned 9-29-08.

Numbers of new double-truck work flats began with #7, in continuation of this series.

Flat Trailers---All burned June 1912; all Bemis ST. Nos. 1-7, 10, & 12. #6 was wood shop trailer, 22' x 6'6". #10 was work car trailer, 26'6" x 6'2". #12 was wood car trailer at 31st St.

NOTES ON MOTORS USED ABOVE:

Sprague:	15 horsepower
SRG:	20 "
WP:	25 " ("Weather Proof")

MODERN WORK CARS: Starting in 1905, TCRT replaced virtually all its work car fleet with new and far better equipment. Many are still in service, almost half a century later.

#2 Supply Car. Ex-762, converted 11-22. Passenger car cab door and double gates retained; large sliding doors added in center of car, both sides. Brill 02, GE 67, K-6.

#3 Wire Car. At University Substation Garage, 1930s to present (1953).

#4 Wire Car. Snelling wire car from 1912 to about 1941; thereafter Duluth wire car.

#5 Wire Car. East Side wire car, 1912 to 1953.

#6 Powerhouse Coal Car. No motors, air equipped, hopper bottom.

(Notes on Work Car Flats following thru-out list: Termed "Work Car." Some were converted to special uses, not all of which may be on record. Sand Cars originally had sand house removed in summer, so different cars were equipped different winters; sand houses left on after the early years. These work cars were constructed with small cab, with room only for several persons. "Winter cabs" were added on to these on many work cars so construction crews could be sheltered while riding them. These extension cabs were usually, but not always, removed in summer.)

#7 Work Car. Most of these work cars had trucks, motors, controllers of gate cars which were scrapped in 1949.

#8 Work Car. Nicollet wrecker for some winters, roughly 1914 to 1930.

#9 Work Car. No comment; it just worked.

#10 Work Car. Same as #9.

#11 Work Car. Stillwater Division work car, generally kept at Owen St. to 1932. Pilot and classification lights.

#12 Work Car. Minnetonka Division work car, kept at Nicollet to 1932. It had pilot and classification lights. Extension cab 12-16-11. Listed as Nicollet sand car for winter 1920-21. Damaged by fire 1-9-34; scrapped December, 1936.

#13 Work Car. Was sand car, 1-16-25.

#14 Work Car (Sand Car). North Side sand car, winter 1920-21. Thereafter Nicollet sand car and wrecker, to 1953.

#15 Work Car. Destroyed in Snelling fire, 8-17-25, the only steel frame car in this fire; it was rebuilt in November 1925.

#16 Work Car. Duluth sand car, 1920-1952.

#17 Work Car. Same comment as #9.

#18 Work Car (Sand Car). North Side sand car and wrecker, from 1920s to 1953. (The "wrecker" designation was dropped from these cars in the 1930s with purchase of trucks as wreckers for Nicollet, East Side, Snelling.)

#19 Work Car. Lake wrecker; probably their wrecker a number of winters, including 1929-1930.

#20 Switch Car (Locomotive). Ex-snowplow #20 of earlier numbering series. Rebuilt to locomotive 8-10-07 for Powerhouse switching. Used third rail at Powerhouse.

#21 Crane & Wrecking Car. Snelling wrecker till 1940s, thereafter at Nicollet.

#22 Snow Plow. At Duluth, 1911-1919 and Snelling thereafter.

#23 Snow Plow. At Snelling, 1911-1920; Duluth thereafter.

#24 Snow Plow. East Side 1911-1953.

#25 Snow Plow. Wood underframe. May be #25 of earlier snow plow series, or may have had a different number (#21 suggested). From 1911 on, East Side in winter, St. Louis Park line plow; Owen St. wire car in summers. Sold to Anoka in 1918.

#26 Shifter Car. Used at Snelling Shops to move cars and trucks. Rebuilt 1943.

#27 Shifter Car. Snelling Shops.

#28 Shifter Car. Snelling Shops. These three shifters had wood underframe, monitor roof originally; may have been the cable grip cars which boosted electric over Selby Hill; building date unknown. #28 (also 26) rebuilt in 1943 with flat roof and considerable other changes.

(Snow Plow Note: Plows 23-24, and 29-32 were double end, with plow at one end, broom at the other. Broom assemblies, including GE 70 motor and K-28 controller for each, were removed in 1942.)

#29 Snow Plow. East Side; Minnetonka Division plow to 1932; Lake St., 1932-1953. See routing note for #34 Baggage.

#30 Snow Plow. Bloomington till 1911, Lake 1911-1914, North Side 1914-1953.

#31 Snow Plow. Snelling to 1953.

#32 Snow Plow. Nicollet to 1953.

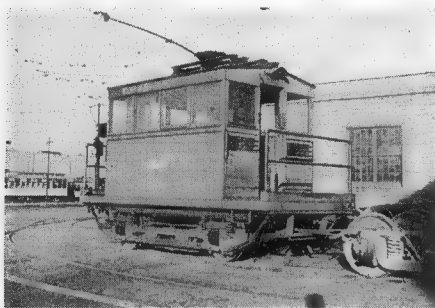
#33 Wire Car. Large spool for cables. Generally at Nicollet to 1953; thereafter used as flat car.

#34 Baggage Car. Possibly not numbered at first. In 1925, high speed gears changed to low speed. Operated over entire Minnetonka Division routes during summer lake season, beginning in 1906. Had East Side motorman and conductor. Car first operated to Tonka Bay, then returned to 9th Ave. Hopkins junction; backed into Hopkins, wyeed there, backed out of Hopkins, and then went west to Deephaven. (Snow plow used the same routing, but the plow was double end.) #34 withdrawn from service after being damaged in collision on line. Sold for scrap, 1936.

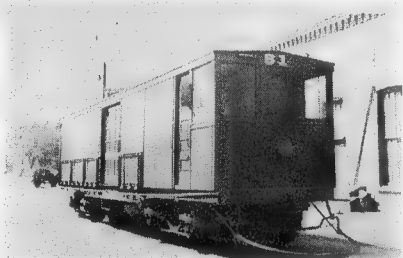
#35 Sand Blast Car. Listed as rail grinder in 1909. A 1911 list has a #35 snow plow at Snelling. Sand blast equipment installed in 1911.

#36 Snow Plow. Lake St. to 1953. Lake wrecker during summers of early 1910s, to 1914 at least.

#37 Snow Plow. Duluth to 1920, Snelling to 1953.



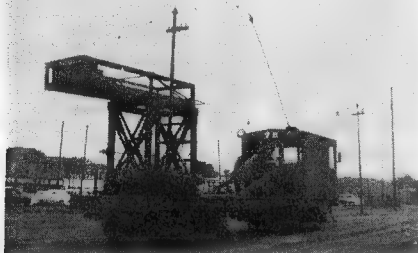
Shifter #26 at Snelling after being rebuilt (28 similar). (CS)



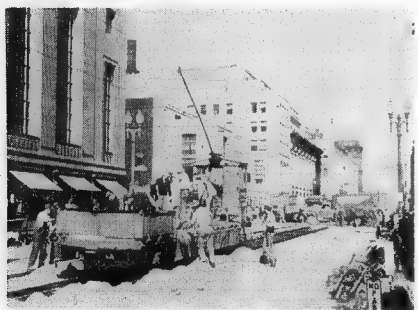
#61 at Snelling. (KB)



#54 at Snelling. (RO)



#72 at Snelling, 1951. (EHN)



Work car #66 laying new rails on Marquette Ave., Mpls. (SM)

#38 Snow Plow. Owen St., Stillwater Division plow to 1932. Duluth wrecker summers to 1914 or later. Duluth plow, 1932-1952.

#39 Rail Grinder. Built by Kerwin, 1911.

#40 Rail Grinder. Same as #39.

(#39 Snow Plow. Listed in 1910 and 1912 reports; latter had both a #39 plow and a #39 rail grinder. May have been renumbered from old plow #18, burned June 1912.)

#41 Switch Car. Ex-No. St. Paul RR., built by Pullman 1892; ex-TCRT 789; 34' long, single gates; to baggage car 5-1-06; later to truck switcher at shops; probably shifter #1, old series; renumbered #41.

#42 Switch Car. Ex-No. St. Paul RR., built by Pullman 1892; ex-TCRT 794. To shop flat 6-30-05; to truck switcher. May have been shifter #2, old series.

#43 Sand Car. At 7th St. until 1920; at Snelling to 1953. (Cars 43-45 listed as "Sand & Wrecking Cars" in 1914.)

#44 Sand Car. Lake till 1953. Used as oil car during summers for first few years.

#45 Sand Car. East Side till present.

#46 Work Car. Had weed cutters on front.

#47 Work Car---specially equipped as dump car.

#48 Work Car (Wrecker). Track Dept. flat in summers, Owen St. wire car in winters to 1917 (replaced by #72). Thereafter Owen St. winter sand car and summer wrecker to 1932. North Side wrecker, 1932-1952.

#49 Work Car. Termed "Refuse Car" for some years.

#50 Crane Car. Entirely rebuilt and got streamlined cab in 1947.

#51 Work Car. See #9.

#52 Work Car. Saw some use as Duluth wrecker around 1915.

#53 Work Car. See #9.

#54 Work Car. See #9.

#55 Work Car. See #9.

#56 Work Car. Some use as wrecker, 1915.

#57 Electric Shovel. Snelling.

#58 Cupola Car, Track Welder, Box Motor. 4-12-14, Cupola Car, used for crushing rock from gravel pits. Rebuilt 1925, best termed Box Motor or Supply Car; used for hauling or storing cement, salt, etc. Out of use, 1953.

#59 Sprinkler Car, Oil Car. Cab on front for motorman, cab on rear housing sprinkling machinery.

#60 Electric Shovel. Snelling.

#61 Cupola Car, Track Welder, Box Motor. Same as #58; rebuilt 1925.

#62 Work Car. First at Snelling Shops; Snelling Station from about 1934 to 1953.

(Note: Work Cars 62-69 used chiefly as ash cars; stations shown where they were most of the time.)

#63 Work Car. First at North Side, then at Snelling Shops, 1934-1953.

#64 Work Car. Lake St. to about 1934, then at North Side to 1953.

#65 Work Car. Duluth to about 1934; then Lake St. to 1953.

#66 Work Car. Nicollet to 1953.

#67 Work Car. Snelling Station to about 1934, then Duluth to 1952; others in 1953.

#68 Work Car. East Side to 1953.

#69 Work Car. Snelling Shops (Boiler Room) to 1953.

#70 Sand Blast Car. Bemis ST, no motors, hand brakes.

#71 Gondola. Trailer, ST, also called Pavement Plow.

#72 Wire Car. Owen St. wire car to 1932; Duluth 1932-1941; Snelling thereafter.

#73 Electric Shovel. Snelling.

#74 Yard Crane. Snelling.

#75 Snow Plow. East Side to 1919, Duluth 1919-1952. Snelling to present.

#76 Snow Plow. East Side till present.

#77 Snow Plow. Nicollet to 1953.

#78 Snow Plow. Nicollet to 1953.

#79 Snow Plow. Lake St. to 1953; to East Side in fall of 1953.

#80 Snow Plow. North Side to 1953.

#81 Snow Plow. Snelling to 1919; East Side 1919 to present.

#82 Snow Plow. Snelling to 1953.

#83 Crane Car. Snelling.

#84 to #93: Gondola Cars. ST trailers, used as coal cars, refuse cars, etc.

#94 Electric Shovel. Snelling.

#95 Supply Car. Ex-1134, converted October 1936. Equipped with side doors, jib hoist, window guards and miscellaneous parts from #2; appearance similar. Was at first to be numbered #2, but it was decided number should not be repeated. #2 and #95 retained general passenger car color scheme. Supply cars made runs from Snelling storehouse to a different station each day of the week on a regular schedule.

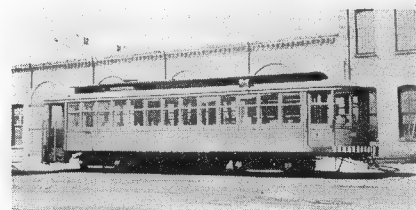
#96 Rail Grinder. Ex-1261, converted 1938. Filled with rail grinding machinery; no changes to body of car; painted work car red. Used regularly until about 1950, often spending several weeks going up and down one line (or part of a line).

#97 Supply Car. Ex-1349, converted July 1947. Painted work car red except for green doors. Front exit retained. Large sliding doors installed on each side, replacing 6th and 7th windows. Windows 8-13 on both sides boarded up. Rear gates removed and rear platform enclosed by windows and dash. Had stove removed and four electric heaters installed in cab. Rehabilitated and repainted in 1952; controller with LB2 control put on and field shunt installed inside car. The regular schedule for #97 was: Monday, Lake; Tuesday, Nicollet and Snelling Station; Wednesday, North Side; Thursday, East Side; Friday, Duluth.

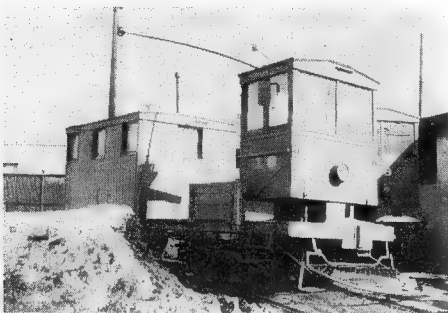


(Above) #95 at Snelling, 1938.

(Below) #96 at Nicollet. (KB)



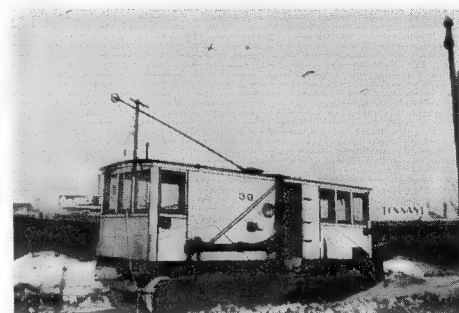
SERVICE CARS 1-99



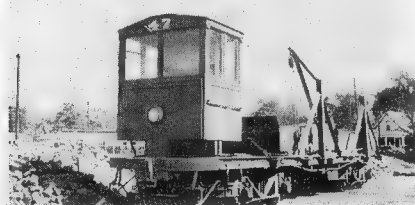
#18, the North Side sand car for about thirty years. Note sand house. (CS)



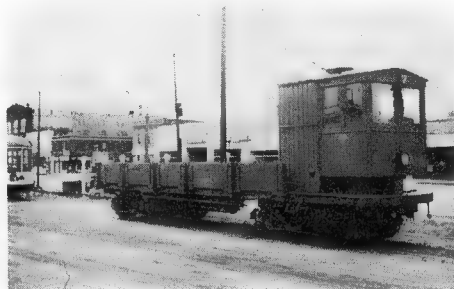
The severe Twin Cities winters made above scene commonplace. #31, one of the Snelling plows, in action.



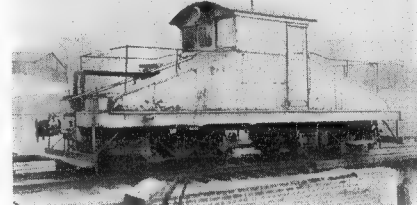
Snow plow #30 at North Side in 1950. It was based there for 39 years. (EHN)



#47 at Nicollet; this car was used as a dump car.

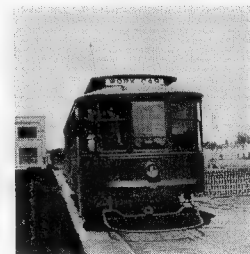


Work car #7 at Snelling. Note its "winter" cab.

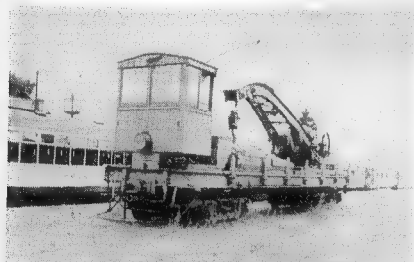


Locomotive #20 at Main Powerhouse. It was TCRT's only third-rail car. Still in service. (KB)

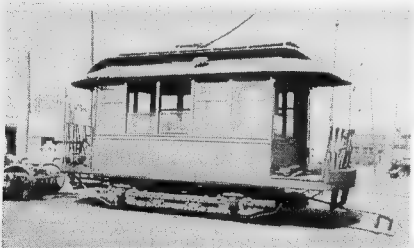
No.	Type	Built	By	Weight	Length	Width	Height	Trucks	Motors	Ratio	Control	Brakes	U.F.	Scrapped	BODY TYPES:
2	A	1922*	Snel	43,800	43'2½"	8'8½"	11'6"		GE 67	15:69	K-6	Ch.	"	1936	A: Supply Car
3	B	1905	Nic	61,780	37'6"	8'8½"	10'11"	TC-W	GE 57	28:57	K-14	"	"	In use	B: Wire Car
4	B	"	"	"	"	"	"	"	"	"	"	"	"	1952	C: Motor Flat
5	B	1908	Snel	"	"	"	"	"	"	"	"	GE	"	1953	D: Gondola trailer
6	D	---	NDCC	36,500	36'2"	10'0"	8'5"	AB	None	None	None	West.	"	In use	E: Shop Switcher
7	C	1905	Nic	39,280	36'0"	8'8"	10'9"	TC-W	GE 70	15:41	K-6	Ch.	Steel	1952	F: Shop Flat
8	C	"	"	"	"	"	"	"	"	"	"	"	"	In use	G: Baggage
9	C	"	"	"	"	"	"	"	"	"	"	"	"	"	K: Rail Grinder, 1-truck
10	C	"	"	"	"	"	"	"	"	"	"	"	"	"	L: Locomotive
11	C	"	"	41,700	37'2½"	"	10'11"	"	GE 57	28:57	K-28	"	"	"	M: Sprinkler
12	C	"	"	"	"	"	"	"	"	"	K-14	"	"	1936	N: Sand Car
13	C	"	"	40,300	25'6½"	8'8"	10'9"	"	GE 70	17:64	K-6	"	"	In use	P: Switcher
14	C	"	"	"	"	"	"	"	"	"	"	"	"	"	Q: Pavement Plow, 1-truck
15	C	"	"	"	"	"	"	"	"	"	"	"	"	"	R: Yard Crane
16	C	"	"	"	"	"	"	"	"	"	"	"	"	1952	S: Snowplow
A 13	C	1912	Snel	---	25'6½"	7'8½"	10'9½"	Bemis	WP	---	---	---	Wood	1936	T: Sandblast Car
A 14	C	"	"	---	"	"	"	"	"	---	---	---	"	1925	V: Electric Shovel
17	C	1907	Nic	41,000	"	8'8"	10'9"	TC-W	GE 70	15:71	K-28	GE	Steel	In use	X: Gondola-flat, 1-truck
18	C	"	"	"	"	"	"	"	"	"	"	"	"	1953	Z: Salt Car
19	C	"	"	"	"	"	"	"	"	"	"	"	"	In use	SW: Snowplow-sweeper
20	L	"	"	78,500	27'10"	9'0½"	11'5"	TC-7	GE 57	16:69	K-6	Ch.	"	In use	RG: Rail Grinder
21	R	"	"	78,600	38'5"	9'1½"	11'6"	B-4	GE 216	17:69	K-37	GE	"	In use	
22	B	1906	"	65,400	27'2"	8'5½"	10'7"	TC-W	GE 73	17:73	C-6 "M"	Ch.	"	1953	
23	SW	1907	"	75,400	24'10"	9'3"	"	"	"	"	"	GE	"	"	
24	SW	"	"	"	"	"	"	"	"	"	"	"	"	"	
25	S	"	"	37,000	24'3"	8'3"	10'9"	Bemis	GE 57	28:57	K-14	Hand	Wood	S 1918	
26	E	----	---	17,600	20'4"	7'3½"	9'8"	Pkkm	2 WP	17:64	K-11	Hand	Wood	In use	Snel: Snelling Shops
27	"	----	---	"	"	"	"	"	"	"	"	"	"	1952	Nic: Nicollet Shops
28	"	----	---	"	"	"	"	"	"	"	"	"	"	In use	NDCC: Natl. Dump Car
29	SW	1908	Snel	73,400	24'10"	9'3"	10'7"	B-4	GE 73	17:73	C-6 "M"	GE	Steel	1953	Ker: Kerwin
30	SW	"	"	"	"	"	"	"	"	"	"	"	"	"	Thew: Thew Elec. Co.
31	SW	"	"	"	"	"	"	"	"	"	"	"	"	"	BH: Brownhoist
32	SW	"	"	"	"	"	"	"	"	"	"	"	"	"	DFSC: Differential
33	B	1909	"	39,800	37'0"	8'8"	10'11½"	TC-W	GE 67	15:69	K-6	---	"	In use	Spdr: Speeder
34	G	1905	Nic	54,540	45'1"	9'2½"	11'4"	B-4	GE 57	28:57	K-14	Ch.	"	S 1936	
35	T	1909	Snel	35,540	24'0"	9'0"	10'9"	Spcl	2 GE 67	15:69	K-11	"	"	1944	
36	S	1910	"	65,400	27'2"	8'5½"	10'7"	B-4	GE 73	17:73	C-6 "M"	Ch.	"	1953	
37	S	"	"	"	"	"	"	"	"	"	"	"	"	"	
38	S	"	"	"	"	"	"	"	"	"	"	"	"	1953	
39	K	1911	Ker	---	15'7½"	7'4"	10'11"	Spcl	1 GE 67	"	K-11	Hand	"	1952	
40	K	"	"	"	"	"	"	"	"	"	"	"	"	"	
41	P	1910*	Snel	---	34'0"	"	"	"	"	"	"	"	Wood	1916	
42	P	1910*	"	---	"	"	"	"	"	"	"	"	"	1914	
43	N	1911	"	50,000	40'0"	8'10"	10'11½"	TC-7	GE 216	17:69	K-37	GE	Steel	In use	
44	N	"	"	"	"	"	"	"	"	"	"	"	"	"	
45	N	"	"	"	"	"	"	"	"	"	"	"	"	"	
46	C	1912	"	41,000	37'2½"	8'0"	10'9½"	TC-W	"	17:64	"	Ch.	"	"	
47	C	"	"	"	"	"	"	"	"	"	"	"	"	1952	
48	C	"	"	"	"	"	"	"	"	"	"	"	"	"	
49	C	1913	"	40,000	"	"	10'9½"	"	"	15:69	"	"	"	In use	
50	R	"	"	60,000	43'10"	8'11½"	12'1½"	TC-7	"	17:64	"	"	"	"	



#97 at Snelling. (KB)

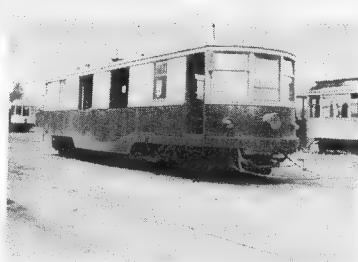


CRANE #21: Heavy-duty wrecker. Capacity of crane, 30,000 lbs. Hoist operated by a 7½ hp. motor. MCB couplers.

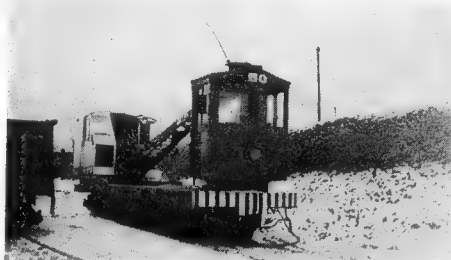


SHOP SWITCHER #28: This car, with cars 26 & 27, shifted cars at Snelling shops. They were rebuilt for the purpose from old passenger cars.

1954 WORK CAR OUTLOOK: It is expected that TCRT rail operations will be terminated on or about June 1, 1954. Between now and mid-1954, most of the service cars listed on these pages will be scrapped. Probably #20



SAND CARS 43, 44, 45: Very unique in appearance with drop centers and quite flat roofs. Equipped with 7½ hp. motor on sand screw. Could carry 29,750 lbs. water, or 30,000 lbs. sand, or 29,120 lbs. of coal. 48 cu. ft. capacity. (KB)

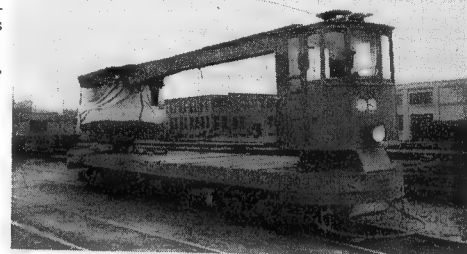


CRANE CAR #50: Capacity: 8100 lbs. 12' radius, 3600 lbs. 26½' radius. A 24 hp. motor in cab. Cab modernized 1947.

will be kept by the new owners of the Main Powerhouse (along with #6), but the others may be considered "Scrapped 1954."



SPRINKLER CAR #59: Used oil or water. 50 cu. ft. compressor in rear cab maintained 15 lb. pressure in its 4000 gallon tank. (RO)



CRANE CAR #83: All steel. Capacity: 10,000 lbs. at 25'10" radius, 4,000 lbs. at 44'0" radius. (RO) 26" wheels.

ELECTRIC SHOVELS 57, 60, 73: All steel but cab. Extra set of wooden wheels for work off the track. 1/3 cu. yd. capacity. 7'10" truck wheelbase.

ELECTRIC SHOVEL #94: All steel. Caterpillar treads. Detachable steel wheels for rail travel. Used also as skimmer and ditcher. ½ cu. yd. capacity. Its GE motor was rated at 25 hp and drove through mitre gears. Wheels were 20". 1 trolley, mounted 7'10" from rear of cab.

Motor Horsepower:

GE 57: 50 HP
GE 67: 40
GE 70: 40
GE 73: 75
GE 216: 50
GE 275: 60
GE CV: 26
WP: 25

Brakes:

CM: Christensen
GE: General Electric
West: Westinghouse
AC: Allis Chalmers

* 41 rebuilt from 789, 1910
42 " " 794, "
2 " " 762 1922
95 " " 1134 1936
96 " " 1261 1938
97 " " 1349 1947

TRUCKS:

TC-Work: 5'8", 33-34" W.
Bemis: 5'1½", 33" wheels
TC-7: 5'8", 33", 34"
B-4: 6'0", 34" Baldwin
Pkmh: 8'0½", 33" Peckham
Spcl: 7'6", 33" Special
Br: 5'8", 34" Brill 27-E
Bald 2: 6'4", 34" Baldwin
NCS: 5'8", 26", National
Ctplr: Caterpillar crawler
Bald 1: 6'0", 34" Baldwin
TC-5: 6'0", 34"

	No.	Type	Built	By	Weight	Length	Width	Height	Trucks	Motors	Ratio	Control	Brakes	U.F.	Scrapped
	51	C	1914	Snel	44,300	37'2½"	8'11"	10'9½"	TC-7	GE 216	17:69	"	"	"	In use
	52	C	"	"	"	"	"	"	"	"	"	"	"	"	1953
	53	C	"	"	"	"	"	"	"	"	"	"	"	"	In use
	54	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	55	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	56	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	57	V	"	Thew	56,000	27'0"	8'6"	18'0"	Spcl	1 GE CV	---	Rheostat	---	"	"
	58	A	"	Snel	51,000	37'0"	8'2"	10'6"	TC-W	GE 67	15:69	K-28	Ch.	"	1953
	59	M	1915	"	52,700	35'4"	8'0½"	10'4"	B-4	GE 57	16:69	K-37	GE CP 25	"	1952
	60	V	"	Thew	56,000	27'0"	8'6"	18'0"	Spcl	1 GE CV	---	Rheostat	---	"	"
	61	A	"	Snel	51,240	37'0"	8'2"	10'6"	Br	GE 67	15:69	K-28E	Ch.	"	1953
	62	C	"	"	43,320	37'2½"	8'0"	10'11½"	"	WP	17:64	K-6	"	"	In use
	63	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	64	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	65	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	66	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	67	C	"	"	"	"	"	"	"	"	"	"	"	"	"
	68	C	"	"	"	"	"	"	"	"	"	"	"	"	1952
	69	C	"	"	"	"	"	"	"	"	"	"	"	"	In use
	70	T	"	"	13,980	11'0"	6'6"	11'1"	Bemis	---	---	---	---	Wood	1945
	71	Q	"	Snel	---	---	---	---	Single	None	---	---	---	"	1952
	72	B	1917	"	59,000	37'6"	8'8"	10'11"	TC-W	GE 57	28:57	K-14	GE	"	In use
	73	V	"	Thew	56,000	27'0"	8'6"	18'0"	Single	1 GE CV	---	Rheostat	---	Steel	In use
	74	R	"	BH	---	---	---	---	---	---	---	---	---	"	"
	75	S	"	Snel	64,320	37'2"	8'8"	11'0"	Bald 2	GE 73	17:73	C-6 TM	A-C	"	1952
	76	H	"	"	"	"	"	"	"	"	"	"	"	"	"
	77	S	1918	"	"	"	"	"	"	"	"	"	"	"	In use
	78	S	"	"	"	"	"	"	"	"	"	"	"	"	"
	79	S	"	"	"	"	"	"	"	"	"	"	"	"	"
	80	S	"	"	"	"	"	"	"	"	"	"	"	"	"
	81	S	"	"	"	"	"	"	"	"	"	"	"	"	1953
	82	S	"	"	"	"	"	"	"	"	"	"	"	"	In use
	83	R	1927	DFSC	67,300	44'0"	8'0"	12'2"	NCS	GE 275	15:57	C-169 TM	GE CP-27	"	1953
	84	X	"	"	"	"	"	"	Single	None	---	---	---	Wood	1952
	85	X	"	"	"	"	"	"	"	"	"	"	"	"	"
	86	X	"	"	"	"	"	"	"	"	"	"	"	"	"
	87	F	"	"	"	"	"	"	"	"	"	"	"	"	"
	88	X	"	"	"	"	"	"	"	"	"	"	"	"	"
	89	X	"	"	"	"	"	"	"	"	"	"	"	"	"
	90	X	"	"	"	"	"	"	"	"	"	"	"	"	1953
	91	X	"	"	"	"	"	"	"	"	"	"	"	"	1942
	92	X	"	"	"	"	"	"	"	"	"	"	"	"	1952
	93	X	"	"	"	"	"	"	"	"	"	"	"	"	"
	94	V	1929	Spdr	31,000	31'6"	8'8"	11'0"	Ctplr	1 GE	---	---	---	"	"
	95	A	1936*	Snel	48,300	45'9½"	8'8½"	11'6"	Bald 1	GE 70	15:71	K-28A	Ch.	Steel	In use
	96	RG	1938*	"	58,900	46'7"	9'2½"	11'5"	Bald 4	GE 73	24:51	C-6TM	Ch.	"	1947
	97	A	1947*	"	48,300	46'8"	"	"	TC-5	GE 213	15:71	K-37A	GE	"	1952
	98	Never Existed	"	"	"	"	"	"	"	"	"	"	"	"	In use
	99	"	"	"	"	"	"	"	"	"	"	"	"	"	"

DULUTH - SUPERIOR TRACTION COMPANY

Insofar as rolling stock was concerned, Duluth-Superior Transit was a remarkable carbon copy of TCRT. Practically all Duluth's cars had their origin in the Twin Cities and for this reason we append the following roster of Duluth-Superior cars:

Duluth	TCRT	Date	Remarks
151-162	New	1901	Like TCRT 867
163-177	New	1904	
178	1043*	1905	
179	1108	1906	
180	1109	"	
181	1110	"	
182	1111	"	
183-197	New		
198-203	New	1908	
204-214	New	1909	
215-219	New	1910	
220-221	New	1911	Incline Cars
222-237	New	"	
238	1482*	"	
239	1483*	"	
240	1484*	"	
241	1485*	"	
242-251	New	1912	
252	1564*	"	
253	1565*	"	
254	1566*	"	
255	868	"	
256	869	"	
257-262	New	1914	
263	1789	1916	
264	1790	"	
265	1791	"	
266	1792	"	
267	1724	"	
268	1719	"	
269	1716	"	
270	1722	"	
271-278	New	1917	
279	988	"	Rented to Duluth 12/20/17; returned to TCRT 11/4/20.
280	989	"	
281	990	"	
282	991	"	
283	1672	"	Not TCRT built.
284	1673	"	
285-288	---	1917	
289	1202	1918	
290	1204	"	
291	1212	"	
292	1231	"	
293	1232	"	
294	1234	"	
295-300	---	1919	New Birneys
301-305	New	1925	Lightweights

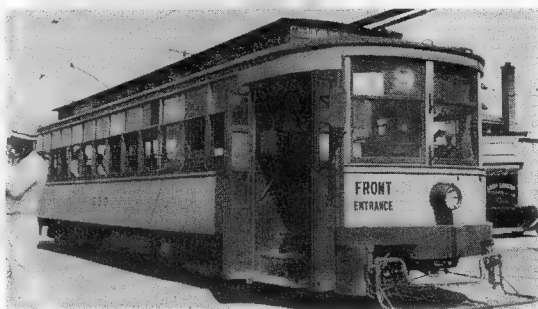
* Given TCRT numbers but never used on TCRT lines; replaced by second car, same number.

Duluth, the shipping point for ore mined in the famed Vermilion, Cuyuna and Mesabi iron ore ranges of northern Minnesota, has been jokingly referred to by its residents as the city that is 26 miles long, 3 miles wide and a mile high. To further complicate the public transportation problem, the topography of the territory served is hilly and is broken by many ravines and densely wooded parks. As a result, there is a low density of population in proportion to area, not only in Duluth but in its companion city, Superior. Nevertheless, streetcars ran for many years in these cities, and practically all of them originated in TCRT shops. Even the two unique incline railway cars were built at TCRT's Snelling Shops and bore a marked resemblance to Twin City cars.

On November 8, 1890, the first streetcar operated by electricity in Duluth. From then until the abandonment of the last electric car on July 8, 1939, Duluth and Superior depended on their electric cars for their local transportation.

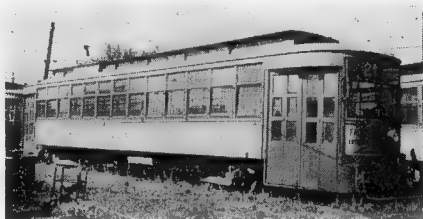
Originally, Duluth-Superior cars were two-man, with gates at the rear and a small door for the motorman at the front. From 1926 until 1930, DST was occupied in altering its cars to permit one-man operation. Double folding doors were installed at the front and a single folding door at the rear.

Trolley coach operation started in 1931 when the Lester Park line was converted. It proved successful and one by one the street car lines gave way. Today the heavy lines in Duluth are trolley coach, while lighter lines, as well as all lines in Superior, are served by motor coaches.



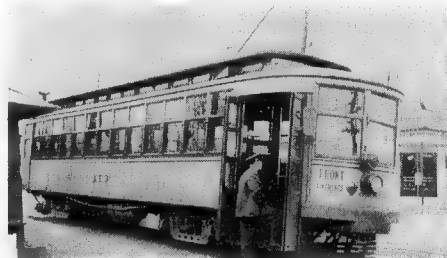
Left: 230 on Gary-New Duluth line in 1937. (HR)

Above: 301 Class car, 1926.



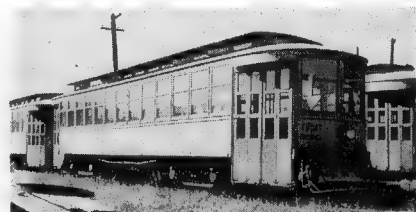
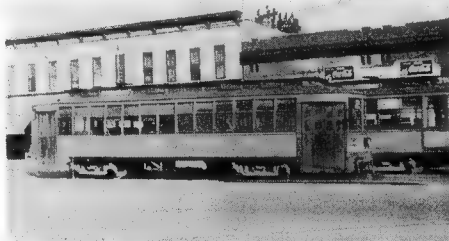
Above: 213 in 1937.

Below: 248 on Grand Ave. line, Duluth.



Above: 163 in 1931.

Below: 174 in 1938. (SM)

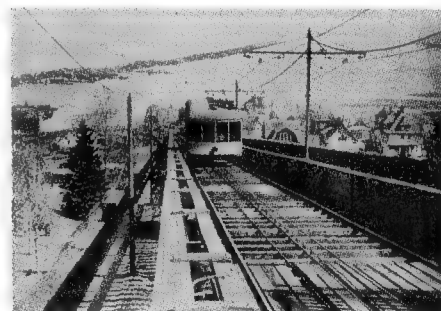


End of an Era

Duluth's incline railway operates for the last time as buses take over 9-16-39

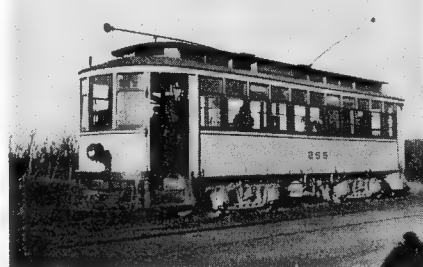


The incline cars were 24' long, 11' wide, 8'8" high inside and weighed 22,000 lbs. At the top, passengers transferred to the isolated Highland Ave. line, served by cars 255 and 256 (below).



Car on the Duluth incline railway.

Duluth News-Tribune Photo



DULUTH, MINN. — One of the world's oddest railways — the famed incline, whose two cable-connected cars have shuttled up and down the 500-ft. cliff off Lake Superior since 1891 — has given way to modern, streamlined buses.

Millions of passengers from all parts of the world have made the ride along the steep 2,749-ft. cable route to view the shimmering lake and watch the whaleback ore boats put out for eastern steel mills. The incline was abandoned as part of Duluth's transit modernization plan, and residents of the city had been urged

to ride the incline during the summer before it was shut down for all time. The pavilion, at the top of the line, was one of Duluth's show spots before it was destroyed by fire in 1901.

During its dying days hundreds of Duluth residents who had long considered the old incline just a convenient way home from work, dropped their nickels to ride the last time. Inter-car telephones signaled stops and starts at the five stations along the incline. It was extremely important for the drivers to get together — as one went up, the other had to come down, exactly at the same rate.

About fifteen miles north of Minneapolis is the town of Anoka (22,443 souls in 1940). The first sign of interest in establishing public transportation between these centers apparently came about in 1898, for in that year the MINNEAPOLIS & ANOKA ELECTRIC SUBURBAN RAILWAY was incorporated with a capital stock of \$50,000. Nothing came of this, however, and the next attempt was made on the 30th day of March, 1909, when the incorporation of the ANOKA-MINNEAPOLIS SUBURBAN RY. took place, also capitalized at \$50,000. It too died at birth. During 1912 and 1913 a few Duryea buses were in operation on the West River Road between Minneapolis, Osseo, and Anoka by the Girling-Warner firm.

These same two years witnessed the building and opening of the first rail line from Minneapolis to Anoka. On July 12, 1912, the ANOKA-MINNEAPOLIS SUBURBAN RY. sold its franchises to the MINNEAPOLIS & NORTHERN RAILWAY COMPANY, which had been incorporated in the state of Maine (i) with capital of \$500,000. The M&N filed corporation papers with the state of Minnesota on August 15, 1912, authorizing it to do business in Minnesota. Construction was started on a line from northeast Minneapolis to Anoka, 14.74 miles. The line was finished in the spring of 1913 at a cost of exactly \$496,686.29. The route began at a wye at Main & Mill Streets in Anoka, thence via private way to a connection with the Soo Line Railroad at 34th Ave. NE in Minneapolis. An agreement was made with the Soo Line for the use of that railroad's bridge over the Mississippi River near that point so that the cars terminated at 42nd Ave. N. & Camden Place in Minneapolis. General offices were located at 3900 Washington Ave. N. Two McKen gasoline motor cars were purchased and the line opened for business on June 10, 1913. A big celebration was held on June 11th, with important officials of the road and both its terminal cities participating.

The first schedule was as follows:
Lv. Mpls: 8:00, 11:00, 2:10, 4:00, 11:30;
Lv. Anoka: 7:00, 11:00, 1:00, 4:00, 7:00. A week later the schedule was increased to six trips daily with four extra trips on Sunday.

The line advertised itself as "The Smokeless, sootless route to Minneapolis, the only one of its kind with all-steel cars finished in mohogany."

On December 16, 1913, General Manager F. H. Hunter announced that the line had completed arrangements to haul freight. Such loads would be handled out of the Soo Line freight depot in Minneapolis and would be unloaded at the M&N freight depot at the Anoka wye. A special freight motor was built for this service by the McKen Motor Car Company.

On February 10, 1914, a plan was announced for a proposed line to be constructed from Anoka to points on the northwestern shores of Lake Mille Lacs under the name of the MINNEAPOLIS, MILLE LACS & NORTHERN RAILWAY. The new line was to use the M&N tracks from Minneapolis to Anoka. After a little grading had been done in and around Anoka the project was dropped.

The M&N was having financial troubles at about this time. Although much construction material and supplies were being hauled to the Coon Rapids Dam being built about halfway to Anoka, it was still rough sledding. As if this were not enough, the McKen cars were giving trouble, the main problem being that they were almost impossible to start in cold weather. On January 1, 1915, the M&N went into receivership. The contract for the use of the Soo Line bridge was to expire that same week and contractors' liens totalling \$87,000 for construction of the road were due on January 26, 1915. Application was made to the Minnesota Railroad & Warehouse Commission to discontinue operations for the winter, but permission was received to halt operations for but thirty days. On January 26, 1915, the line became the property of the lienholders, of whom the principal one was Mr. C. P. Bratnaber. He purchased the claims of the others on March 3, 1915. The deed was conveyed to the MINNEAPOLIS, ANOKA & CUYUNA RANGE RAILROAD COMPANY, which had been incorporated on February 12, 1915, by Mr. Bratnaber and certain officials of the defunct M&N.

Work soon began on putting the line into first-class shape. The heavy construction materials hauled to the dam over the M&N's light rail, coupled with sketchy maintenance, had wreaked havoc with track and roadbed. It was announced that the MA&CR had hopes of electrifying the line by April 1st. In order to retain title to certain portions of the right of way it was necessary to restore service immediately. As the manufacturer had

MINNEAPOLIS, ANOKA & CUYUNA RANGE RY.



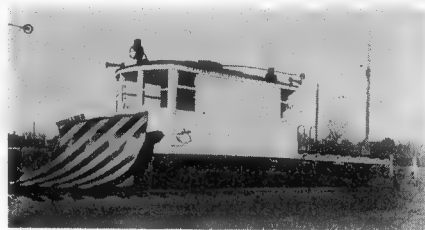
MA&CR #1 (BN) and #2 (SM); Note name "Anoka" carried on sides.



MA&CR #100, ex-Dan Patch motor. (SM)



#8 at Anoka station, 1935.



#105 (ex-St. Paul Southern) in 1945. (WM)



#1 (100) pulling freight car, 1945.

repossessed the three McKen cars when the M&N went into receivership, the MA&CR was faced with a problem of utmost gravity. It was soon determined that electrification could not be completed in the time allowed, so a steam locomotive and several coaches were purchased from the Chicago, St. Paul, Minneapolis & Omaha Railroad (Chicago & Northwestern), and service was started with them on April 20th. A water tank and coal bins were built in Anoka, and since there were no turntables or wyes long enough to accommodate the train, the locomotive ran forward to Minneapolis and backward to Anoka!

The electrification was completed nine months later and trolley service began on October 13, 1915, using rented TCRT cars 1516, 1714, and 1717, plus several cars purchased from Cleveland Railways Company. At the same time, an order was placed with TCRT for four cars; two were delivered new in December of 1915 and one each second-hand in July 1916 and November 1917. The MA&CR had been extended from the Soo Line interchange to connect with the end of TCRT's 2nd St. NE line at 30th Ave. NE & Grand St. A depot was located at 517 2nd Ave. S. in downtown Minneapolis, and cars reached this point by trackage rights over the 2nd St. NE line to Marquette Ave. to 6th St. to 2nd Ave. S. to the depot. Outbound the cars ran on 2nd Ave. S. to Washington, to Marquette, then on the 2nd St. NE route. In June 1916 a handsome brick depot was erected in Anoka on Main St. alongside the Rum River, and the company's offices were moved to this location.

Effective January 1, 1923, the MA&CR began using the Luce Line depot at 3rd Ave. N. & 7th St. N. in Minneapolis. Cars were then rerouted on Hennepin to 1st St. N. to 1st Ave. N. to 8th St. N. to the depot at 7th St. N. & 3rd Ave. N. This route was used until the end of passenger service.

The best and most profitable years were those from 1915 to 1925. The heaviest schedule ever operated called for fourteen daily

trips with four extra trips on Sundays. Two cars usually provided base service with TCRT cars being rented to meet special demands. The line carried about 140,000 passengers annually during this prosperous period, and standing loads were common on many trips. During State Fair Week, through cars were run from Anoka to the fairgrounds (TCRT's Como line east of 2nd St. NE & Hennepin).

MA&CR's regular stops were: Minneapolis Depot, 30th Ave. NE, 34th Ave. NE, 43rd Ave. NE, Riedel, Nelson, Fridley, Myers, Osborne, Hanson, Oakland, Riverview, and Anoka Depot. Additional public and private flag stops brought the total up to sixty.

Freight was not neglected: Two express motors were purchased, and these carried express and package freight. A freight belt line was constructed in Anoka, and service given with the old steam locomotive until 1922 when this trackage was electrified. Interchange freight was handled from connections with the Soo Line at 34th Ave. N. and with the Great Northern at Osborne and Anoka. MA&CR's principal freight power was electric locomotive #100, built in 1913 by General Electric Company as a gas-electric; it was converted to straight electric in 1917 by its second owner, and came to MA&CR in 1922. Ten miscellaneous freight cars completed the roster, along with a couple of snowplows bought second-hand (see Roster).

Along with many other electric railways, the MA&CR's revenues declined sharply in the mid-twenties due to increased use of autos and trucks. So much express business was lost to trucks that the express car was discontinued, along with the mail service. In an attempt to reduce expenses, three of the passenger cars were rebuilt to permit one-man operation, with the rear platforms made over to accommodate freight and express. These changes did not seem to help matters any, and on July 9, 1926, the line went into receivership. On November 25, 1929, the MA&CR RR. was reorganized as the MA&CR RY. and was in-

corporated under the laws of the state of Delaware by Mr. W. D. Lovell with a capital of \$39,000. (The reason for the "Cuyuna Range" portion of the title was probably that the road hoped to connect with the MESABA RAILWAY, a 35-mile interurban between Hibbing and Gilbert in the northern Minnesota iron ranges.)

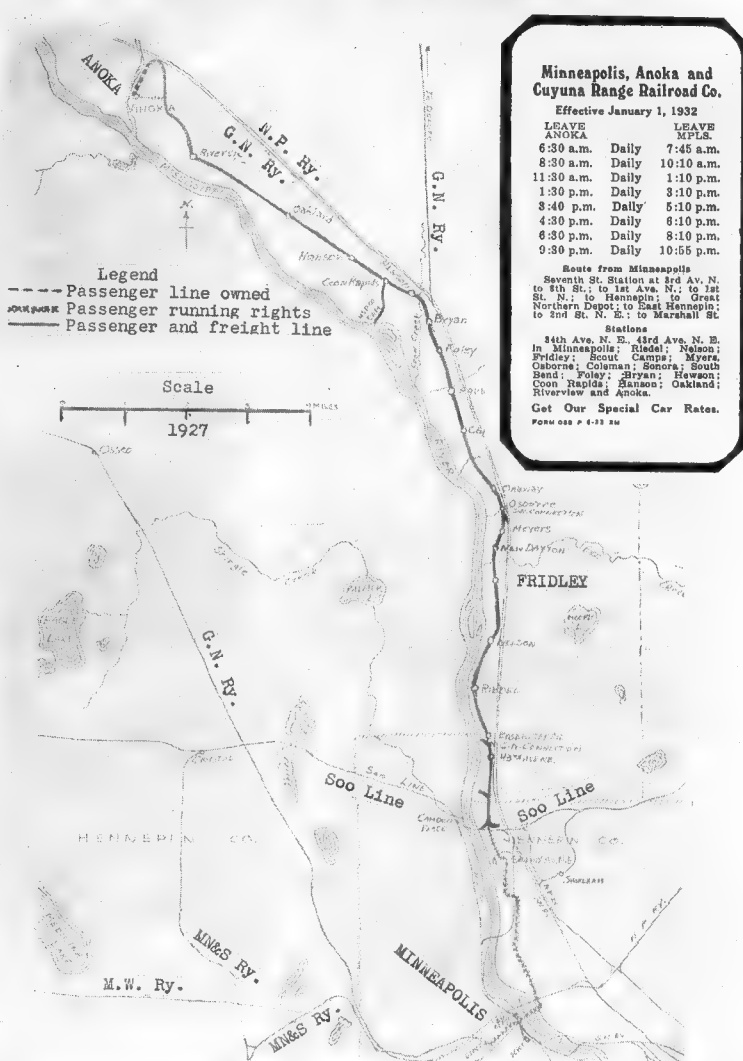
Because of the lack of money for maintenance, the physical condition of equipment and roadway became appalling. Rails gave the appearance of two snakes wriggling through knee-high weeds and rotted ties gave track a roller-coaster effect. Rails were laid on a sandy foundation and tangent track was sometimes super-elevated while curves were level. Overhead poles leaned in every direction but the catenary was in fair condition. The line became known far and wide as "Old Rock and Roll," and patrons swore that the cars covered as much distance sideways as forward. During the last years of operation the cars were painted boxcar red; when the paint became shabby, the cars presented a singularly dismal appearance. Cars 1 and 2 were used in regular service and occasionally received a fresh coat of paint. Careening wildly down the line, the cars appeared to be disjoined; vestibules bobbed up and down while the body twisted and turned with loud creakings and groanings, and the floorboards chafed back and forth against each other. The roofs leaked so badly that passengers had to put up umbrellas when the

rains came. Derailments were frequent, and more than once a rider, smoking in the rear of the car, would slide down the aisle on the seat of his pants and slam up against the motorman's back as the car left the rails and slammed into an embankment. On one occasion the underbody equipment became loosened from the severe jolts the car took and vibration of the air compressor caused the whole underbody equipment to fall onto an Anoka street. Much of the freight carried on the rear platform consisted of cases of shells and cart-ridges from the Federal Cartridge Company in Anoka; these would bounce merrily around as the car proceeded. To cap the climax, it was not uncommon for the trolley pole to jump the wire as many as fourteen times per trip!

Car #8 still retained the wire gates and steps on the rear platform and these gates were supposed to be clamped shut when the car was running; the clamps seldom stayed fastened, so the gates flapped open and shut at each convulsion of the car on the washboard track. It is not known whether any freight was ever lost from this cause.

The MA&CK finally gave up all hope of regaining its lost passenger business; on August 23, 1939, all passenger service was discontinued and the cars were put in dead storage. Freight operation continued, but so deplorable was the condition of the track that a governor was installed on the engine to keep speed down so as to safeguard the steam road equipment handled over the line.

With the entrance of the United States into World War II, a large defense plant was built by the Northern Pump Company near the MA&CR track south of Fridley. An inquiry was undertaken by this company to solve the



problem of transporting workers to and from the plant, and the company decided to purchase the MA&CR----which it did on November 29, 1943. Having no use for the trackage north of Fridley to Anoka, that part of the interurban was torn up. The southern portion of the line was completely rebuilt with crushed rock ballast, heavier rail, new overhead and poles, and relocation of some track, plus new spurs. The three stored passenger cars of the MA&CR were completely reconditioned and painted in the patriotic colors of red, white and blue. Passenger service on a twenty-minute headway was established in November 1943 for employees only, with no fare charged. Cars ran from the plant to the old connection with TCRT at 30th Ave. N. & Grand, which had been ripped up. TCRT built an extension of its wye and backed its cars down to 30th & Marshall to meet the Northern Pump cars. No actual track connection was re-established, although the end of each company's overhead wire was tied to the same pole. All through the war and until 1948 the red, white and blue cars continued to serve and then the passenger service was discontinued. Freight service by the electric locomotive is still operated every day---serving not only the Northern Pump plant (which since 1950 is once again making armaments), but also two filtration plants of the Minneapolis Water Department.

The three gaily painted passenger cars remained stored at the Northern Pump plant until the spring of 1952. Determining then that there would probably be no further use for the cars, officials of Northern Pump ordered them scrapped. The end came on May 14, 1952, when they were put to the torch.

MINNEAPOLIS ANOKA & CUYUNA RANGE RY.

Car No.	Type	Builder	Date	Length	Width	Height	Weight	Motors	Trucks	Ratio	Seats	Disposal
1	1	TCRT	1915	46'8"	9'11"	12'2"	41,700	GE 200	TC-9	15:66	32	B 1952
2	2	"	"	"	"	"	"	"	"	"	48	B 1952
3	2	CRys	1910	47'1"	8'11"	"	38,000	"	"	"	26	D 1926
4	"	"	"	"	"	"	"	"	"	"	"	D 1923
5	3	McG	1916	"	"	"	74,000	"	"	"	"	D 1943
6	2	CRys	1910	47'1"	8'11"	"	38,000	"	"	"	26	D 1923
7	1	TCRT	1914	46'8"	9'11"	12'2"	41,700	GE 200	TC-9	15:66	44	D
8	2	"	1917	"	"	"	"	"	"	"	48	B 1952
25	4	TCRT	1904	24'3"	8'3"	11'6"	37,000	GE 57	Bemis	28:57	--	D 1928
100	5	GE	1913	36'10"	"	14'6"	86,000	GE 205D	Wason	"	--	In use
110	6	TCRT	1917	37'0"	9'6"	12'2"	56,200	W 306	Baldwin	15:66	--	D 1948

Type: 1 -- Combine TCRT: Twin City Rapid Transit GE 200: 40 hp.
 2 -- Coach CRys: Cleveland Railways Co. GE 57: 60 hp.
 3 -- Express McG: McGuire-Cummings Car Co. GE 205D: 100 hp.
 4 -- Snow plow GE: General Electric Co. W 306: 70 hp.
 5 -- Locomotive B: Burned All cars, 4 motored
 6 -- Work car-plow D: Dismantled
 W: Westinghouse

Notes:

1: Interurban combine built by TCRT 12/7/15. Cost \$6,000. Steel underframe, K43F2 controller, GE CP-25 air brakes. Stored 1939, rebuilt 1943 to double-end; stored 1948 and burned on 5/14/52. Rebuilt to one-man 1926.

2: Interurban passenger built by TCRT on 12/8/15. Same data as #1 except seats 48. Rebuilt to one-man 1925, stored 1939, made double-end 1943, stored 1948, burned on 5/14/52.

3: Passenger cars with wooden underframe; built by Cleveland Railways 1910. 3 & 4 bought in 1915 and 6 in 1916 for \$1200 each. 3 was rebuilt to an express car in 1919 and retired in 1926. 4 & 6 scrapped '23.

5: Express car built by McGuire-Cummings Car Company; bought 7/4/16 for \$7572.54. Put in storage 1925, scrapped 1943.

7: Interurban combine, built by TCRT on 11/18/14 as its #1713. Sold to MA&CR on 7/3/16 for \$6973.90, after being rebuilt with a baggage compartment. Never rebuilt for one man operation. Scrapped 1943.

8: Interurban passenger built by TCRT as its #1855 on 6/28/17. Sold to MA&CR on 11/20/17 for \$8777.36. Rebuilt for one-man operation in 1925. Renumbered #3 by Northern Pump, made double-end and operated until '48 when stored; burned 5/14/52.

25: Snowplow built by TCRT as its #25 on 11/22/04. Sold to MA&CR in 1918 for \$2525. K14 controller, wood underframe, hand brakes, 32'4" long over plow. Scrapped in 1928 when #110 was purchased.

100: Built as gas-electric freight loco by GE in July 1913 for the Minneapolis, St. Paul, Rochester & Dubuque Electric Traction Company (Dan Patch Lines) (later Minneapolis, Northfield & Southern) at a cost of \$34,500. Sold to Central Warehouse Company for \$8,000 in 1917 and converted to straight electric operation. Sold to MA&CR in 1922 for \$12,601.63. Wason RM54E trucks, two C74F controllers, capacity 600 tons at 10 mph and 400 tons at 15 mph. In October 1943 this loco was renumbered Northern Pump #1, but soon became #100 again.

110: Work car & snowplow built by TCRT in 1917 for the St. Paul Southern Railway. Bought by MA&CR in 1928. Equipped with portable line tower on rear deck. It became Northern Pump #105 in 1943 and was scrapped in 1948.

II 110: Ex-Soo Line reefer used as work car; bought 1942 for \$140.

No #: Trailer snowplow built 1949 with the plow and ballast blocks from #105 and McGuire trucks from old express car #5.

No #: Mack gas locomotive, Model BR, weight 15 tons; used for switching on non-electrified plant trackage.

MINNEAPOLIS & NORTHERN RAILWAY: ROSTER -

"Minneapolis" & "Anoka" - McKen gasoline motor cars built by McKen Motor Car Company of Omaha at a cost of \$38,976.20 in 1913. 55'0" long. Taken back by the manufacturer in 1915 and later sold.

McKen Locomotive: Gasoline-electric freight locomotive built in 1913 at a cost of \$18,767.10. 45'0" long, 9'8" wide, weight 25 tons, capacity 15 tons. It had square windows at intervals and an open rear platform so that it could be used for passenger service by the installation of folding chairs. Taken back by manufacturer in 1915 under legal proceedings.

MA&CR RAILROAD: Steam Locomotive #1:

Built by Baldwin Locomotive Works 1881 for Chicago, St. Paul, Minneapolis & Omaha Ry. which sold it to the MA&CR in 1915 for but \$922.99. Weight on drivers, 48,600 lbs.; pressure, 140 lbs.; tender capacity: six tons coal and 2500 gallons water. Disposed of in 1924.

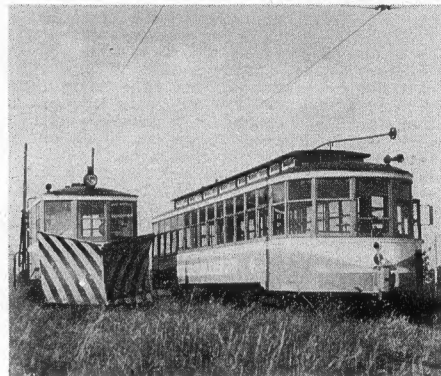
MA&CR RAILWAY: Miscellaneous freight cars:

1-6: Air dump cars; 26' long; sold 1923.

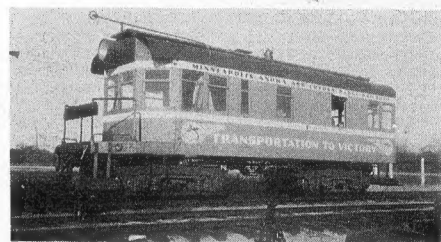
102-104: Flat cars; 37' long; scrapped '26.

1943 Rebuilding:

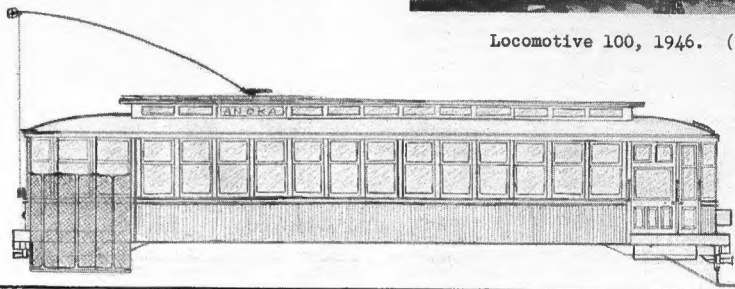
Northern Pump sent cars 1, 2 & 8 to TCRT Shops for a complete rebuild job which cost \$32,258. The chief change was in making them double-enders; this meant installing controls and an air-operated door at former rear end, adding another trolley pole, and installing a rigid coupler at both ends. Air horns and small electric headlights were built in. After rebuilding, cars had only two doors, both on same side, making other side blind.



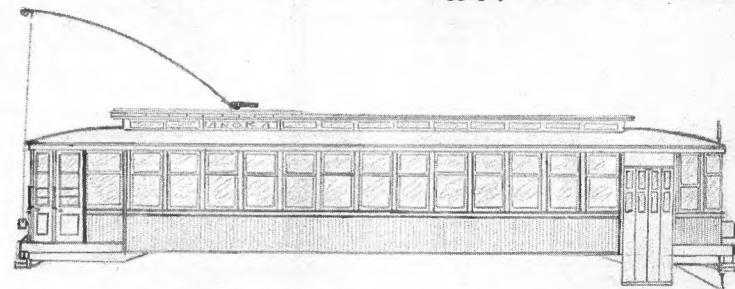
108 and 8 in 1945. Northern Pump's modernization of the old standards might well have been emulated by TCRT itself.



Locomotive 100, 1946. (WM)



MA&CR #1 as built 12/7/15 by TCRT. Front bulkhead was in back of second body window; the wide front door was for baggage, narrow one for motorman.



MA&CR #1 & #2 as rebuilt for one-man operation in 1925-26. On #1, front bulkhead was same as it was before rebuilding. #8 was rebuilt similarly except it retained rear gates. (Both drawings by Russell L. Olson)

MINNEAPOLIS FILTRATION PLANT RY.

MINNEAPOLIS FILTRATION PLANT RAILWAY

This 1.5-mile line was built in 1917 to haul materials and supplies to the City of Minneapolis's water filtration plant, then in the process of construction. On completion of the plant, the railway was to carry operating supplies from the Soo Line RR (MST&SSM) connection, and workers from the nearest trolley line, TCRT's Columbia Hgts. route, more than a mile southwest of the plant. The first regular trip over the Filtration Plant line took place October 1917.

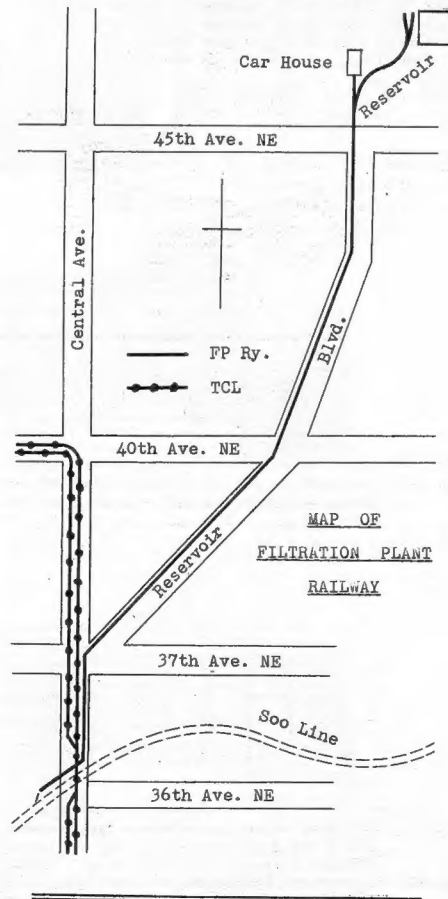
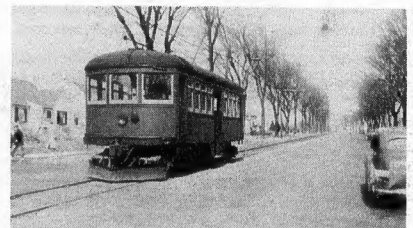
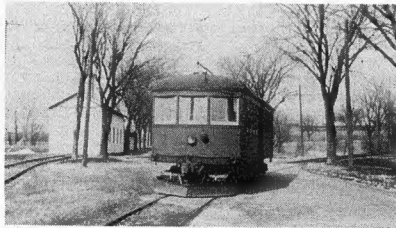
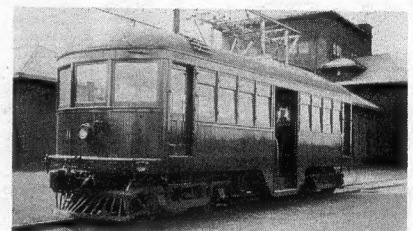
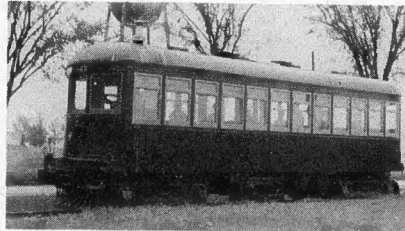
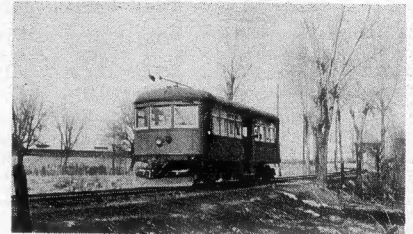
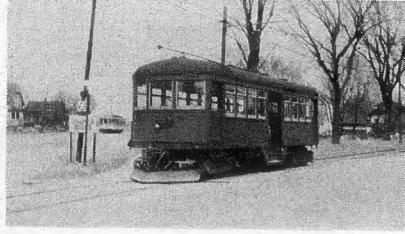
The interchange with the Soo Line is located at 36th Ave. N.E. & Central Ave. From this point, FP's single track crosses TCRT's double track, then parallels it one block north to 37th Ave. N.E. at the city limits. Here the FP route turns northeasterly and proceeds on PRW along the west side of Reservoir Blvd. After a mile of this side-of-the-road operation, the line turns onto a short stretch of PRW which carries it into the plant grounds. A one-car-capacity carhouse is located at the south end of the latter section.

Plant employees were carried free, but service for persons living along the line was provided at a three-cent fare. Between passenger runs or in spare time, the freight loads were hauled to the water works. The freight consists of anything from ammonia, alum, coal, or chlorine, to a special sand taken from the Mississippi River for water filters. Investigations of the costs of hauling such freight showed that the total annual expense of passenger and freight service was over \$2,700 less than the cheapest trucking rate for freight alone. The truckers were not desirous of handling the chlorine or powdered alum. This has been the principal factor in keeping the trolley car in operation.

The sole item of rolling stock is #1, built at the McGuire-Cummings factory in Paris, Illinois, in 1917. This car was especially designed to both carry passengers and to pull freight cars for the construction and operation of the water plant. It is equipped for double-end operation, but has center entrance and exit doors on one side only. Motorman's doors are located at each end, on the same side as the center doors. This arrangement has created some unusual situations. When the car was delivered from the builder, it was found that the doors were facing the wrong side of the right-of-way. A Soo Line switcher was called to take the car to the Soo Line's roundhouse at Shoreham, where the car was turned on the turntable and returned to FP tracks. A visitor to the line once asked why the doors faced only one side of the track, while the car was equipped for double-end operation. Motorman Myron Handy replied that there were so many wild Indians in the woods on the other side of the right-of-way, that they didn't dare let the passengers off on that side! The car is painted maroon, with orange window sashes, and black bumpers, roof, and underbody. Seating 36, the car weighs 43,000 lbs., has MCB couplers, automatic air, McGuire trucks, two C-101A controllers, and four GE 75-hp motors, enabling it to haul standard steam-road equipment.

Minor repairs can be made at the carhouse, which has a pit. However, when the car requires major repairs, it is taken to TCRT's Snelling shops. Since there is no physical connection between TCRT and FP tracks, an interesting operation takes place. The Filtration Plant track crosses TCRT's tracks at 36th & Central at an angle of about 45 degrees. At this point, first the front truck of #1, then the back truck is derailed. When the front truck is derailed, it is then rerailed on TCRT tracks, and the same procedure is followed with the rear truck. The car is then run under its own power to Snelling shops. On the return trip, the car regains its own track in the same derailling procedure.

The one and only motorman for the line is Myron Handy, a former Soo Line fireman and TCRT motorman. A colorful and humorous person, he has become a legend because of years of faithful service. In all of his twenty-five years as motorman, Handy has



had only one accident. On that occasion Handy brought the car to the terminus at Central Avenue, and left it there to await the return trip while he went to a corner grocery store. Several children playing about the car evidently let the emergency brake off. When Handy looked out of the store, he saw the car starting down grade into Central Avenue. He ran out to the street and tried to get a hold on it as it ran by, but its momentum knocked him to the ground. Continuing on down Central Avenue, running against traffic, it turned right and headed for the Soo interchange with its trolley pole swinging wildly in the air. At the interchange it managed, somehow, to run thru the automatic derail and still stay on the rails. From there it ran down the Soo tracks until its air pressure fell to twenty pounds, at which time the automatic air applied itself. Fortunately, there was no damage to the car other than the broken trolley rope, but Mr. Handy received a cut in his forehead, which required seven stitches at a hospital. However, he was soon back at his job of piloting #1.

The following schedule was in effect from 16 June 1941 until passenger service was discontinued on 1 May 1948:
Lv. Filtration Plant 7.30, 8.00 a.m., 12.00, 1.45, 3.30, 4.00 p.m. daily, 4.45 p.m. weekdays only; Lv. 37th & Central 7.45, 8.15 a.m., 12.15, 2.00, 3.45, 4.15 p.m., daily, 5.00 p.m. weekdays only.

The Filtration Plant line obtained its electricity from TCRT, and when the latter substituted buses on the Columbia Heights line on 17 May 1953, MFP decided that it was not feasible to buy power from any other source, and so discontinued rail operation in favor of trucks. Some of the line's old regular riders, including plant employees, teachers and pupils of Silver Lake School, in Columbia Heights, were aboard for the last trip on Friday, 15 May 1953. The motorman was Tom Boerbon, as Myron Handy had retired in September 1952. The City of Minneapolis has put its trolley up for sale, and when a buyer can be found, a Soo Line switcher will probably pull Number One out of its neat white carhouse for the last time.

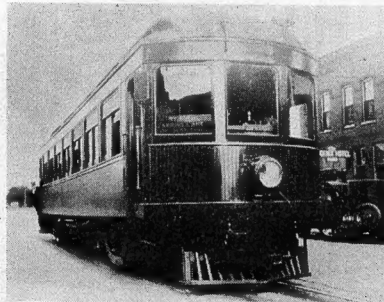
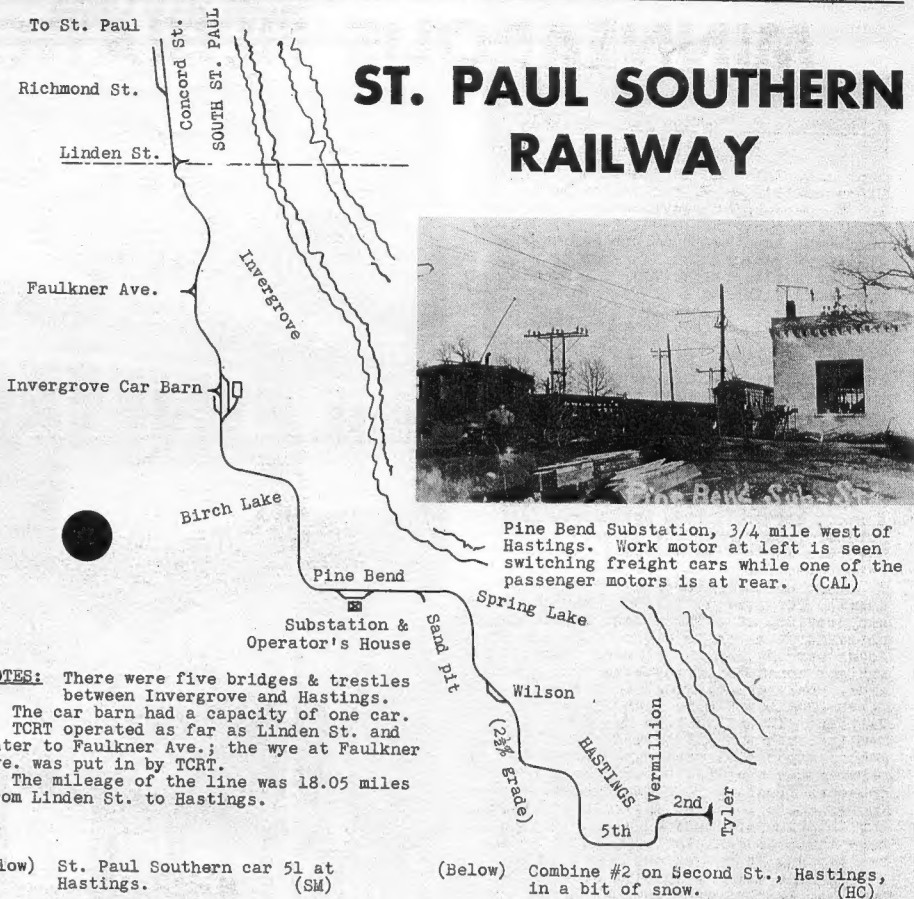
The St. Paul Southern Electric Railway Co. was incorporated under the laws of the State of Minnesota on April 5, 1913. Actual construction began on November 17, 1914, when grading was started on the eighteen-mile right of way from Invergrove to Hastings. It was originally intended to have the line run to Rochester, seventy miles south of Hastings, and some additional grading was completed, but the rails were never laid beyond Hastings. Construction was completed from Invergrove at a cost of \$600,000, and passenger service instituted with four Miles-built interurban cars having red plush seats and very ornate interiors. Dark green paint with silver lettering and striping were used on the exterior.

Trackage rights were obtained from TCRT over their So. St. Paul-Invergrove line from 7th & Robert Sts. in downtown St. Paul to Linden St. at the city line. Power was purchased from the Northern States Power Co., and fed to the trolley wire at 600 volts, DC. Regular stops were at Invergrove, Birch Lake, Highland, Pine Bend, Brown's Crossing, Tyner, Spring Lake, Wilson, and the end of the line at 2nd & Tyler Sts., Hastings. Hourly service was given when the line was opened, but this was soon reduced to ten daily round trips. Regular meets were usually made at Pine Bend Siding. The shops and carhouse were at Invergrove, thereby creating a unique situation. The last run in the evening left St. Paul for Hastings. This car would lay over on the Hastings wye during the night, and then be first out in the morning. When this car reached the Invergrove carhouse, its passengers were transferred to a waiting car for St. Paul, and the car from Hastings would pull into the carhouse. This made it possible for each car to have an inspection every other day, and eliminated much dead-head mileage. Very little freight was carried over the line.

During World War I, the line continually lost money. Finally on September 28, 1918, the StPS was forced into receivership. Under the receiver the company borrowed funds, and in the prosperity after the war it appeared that the line could be put on a profitable basis. This optimism was short-lived, for automobiles and buses soon began to cut heavily into the revenues. In assistance to competitors, the Minnesota Railroad & Warehouse Commission granted equal schedule rights to bus lines in this territory. From the start, there had been competition by the steam trains of the Milwaukee Road, Chicago Great Western, and Burlington System. It was no wonder, then, that a clipping in a St. Paul newspaper of February 5, 1924 stated that the StPS was on the verge of financial ruin. Service was cut to five trips weekdays and six on Sundays. Not long afterward, the line became hopelessly insolvent, as the receiver had no funds with which to operate or to maintain the track and cars. On Tuesday, July 31, 1928, the last car pulled into Hastings at 9:15 p.m. The line was ordered sold at public auction, and on August 23, 1928, Paper, Calmenson & Company of St. Paul was the successful bidder at \$34,200. On October 24, 1928, the B.W. & Leo Harris Company started removal of the trackage in Hastings streets and on the right of way. TCRT operated its city cars as far as Faulkner Avenue in Invergrove, to provide some service in the latter town after abandonment of the StPS. By the end of 1928, the line had been completely dismantled.

The St. Paul Southern was the only inter-urban in the Twin Cities area to use heavy railroad-roof coaches and combines. Much of the right of way can still be seen, along with traceable remains in Hastings, mute reminders of bygone days when the green-and-silver interurbans whistled their way along the beautiful wooded bluffs of the Mississippi River.

Rolling stock was composed of four passenger cars, one work-motor, and four work trailers. #1 & 2 were single-end, RR-roof combines built by the Miles Car Company in 1914 at a cost of \$8490 each. They were 51 feet long, seated 48, weighed 58,000 lbs., & had wooden underframes and Baldwin trucks. #51 & 52 were similar to #1 & 2, but were straight passenger cars seating 54. #51 was destroyed by fire about 1920. The combination work-freight-motor-snowplow (no number) was built by TCRT in October 1917 at a cost of \$6,487.68, with an overall length of 40 feet, an 18 1/2-foot cab, four Westinghouse 306 motors, K-11 controller, steel underframe, MCB couplers, and Baldwin trucks. #101-104 were drop-bottom gondolas built before 1895, and acquired by StPS in 1918 for \$750 each.



St. Paul Southern Electric Railway Co.

TIME TABLE NO. 12.

EFFECTIVE 12:01 A. M., May 15, 1928.

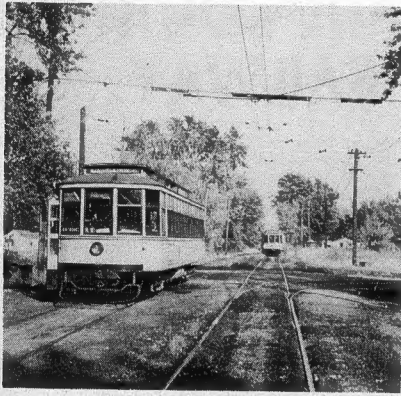
Subject to change without notice

North Bound, leaving Hastings (read down) South Bound, leaving St. Paul (read up)

Daily	Daily	Daily	Daily	Daily	Sat. Sun. Only	STATIONS	Daily	Daily	Daily	Daily	Daily	Sat. Sun. Only
2	4	6	8	10	12		1	3	5	7	9	11
A. M.	A. M.	P. M.	P. M.	P. M.	P. M.		A. M.	P. M.	P. M.	P. M.	P. M.	A. M.
6:35	9:40	12:40	3:40	6:35	9:40	Hastings	9:15	12:15	3:15	6:17	9:17	12:27
6:48	9:53	12:53	3:53	6:48	9:53	Wilson	9:06	12:06	3:06	6:08	9:08	12:18
7:00	10:05	1:05	4:05	7:00	10:05	Pine Bend	8:53	11:53	2:53	5:55	8:55	12:05
7:08	10:13	1:13	4:13	7:08	10:13	Ryan	8:45	11:45	2:45	5:47	8:47	11:57
7:16	10:21	1:21	4:21	7:16	10:21	Shops	8:35	11:35	2:35	5:37	8:37	11:47
7:20	10:25	1:25	4:25	7:20	10:25	Inver Grove Y	8:31	11:31	2:31	5:33	8:33	11:43
7:28	10:33	1:33	4:33	7:28	10:33	South St. Paul	8:23	11:23	2:23	5:25	8:25	11:35
7:46	10:51	1:51	4:51	7:46	10:51	St. Paul	8:03	11:03	2:03	5:05	8:05	11:15

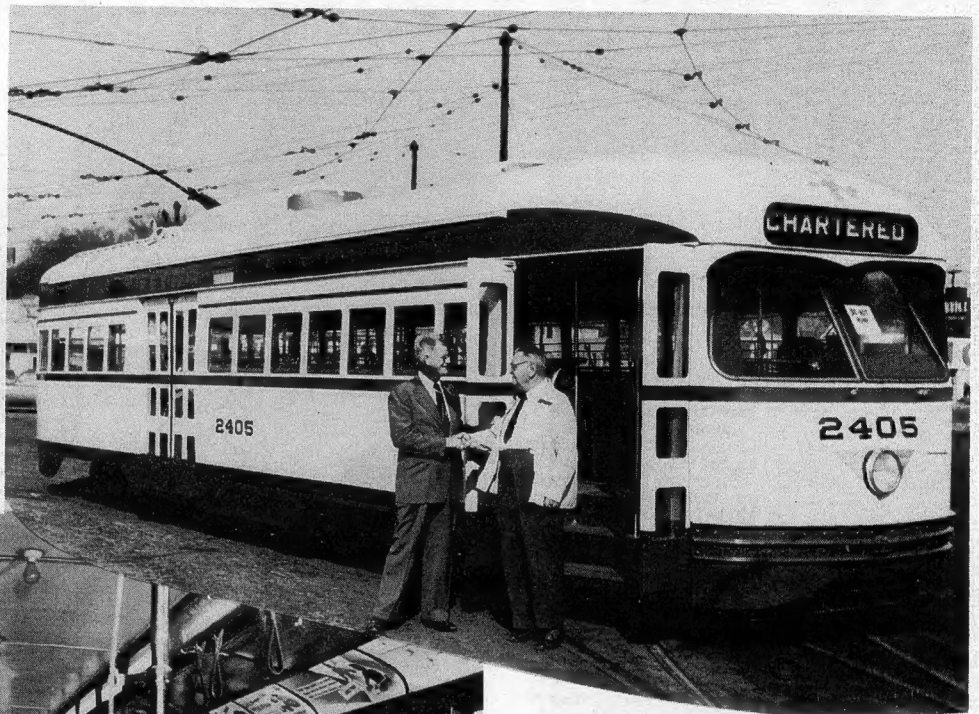
Express and Packages carried on all passenger cars between St. Paul and Hastings.

TWIN CITY LINES



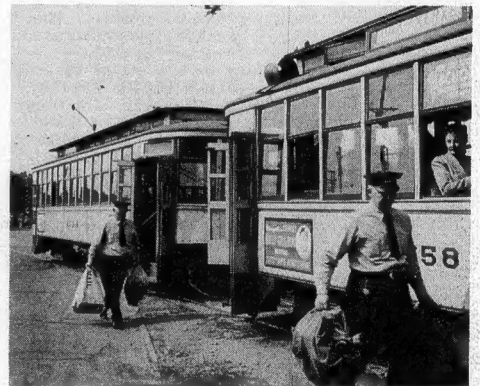
Above: On the Mahtomedi line; at the North St. Paul wye, 1950. (JS)

Below: Interior of car 1511.



Above: Mexico City's 2405 ready to leave Snelling Shops, 1953. Skipper Morgan, TCRT Power Supt., on the left, a Mexico official on right.

Below: Transferring the mail from a Hopkins car (left) to Como-Harriet car for trip downtown; 1950.



INTERURBANS

The National Electric Railway News Digest

Our next publication will be Special 15, "Interurbans of Utah." This will be ready about June 1, 1954, and will sell for \$2.00. Orders are now being accepted.

Special 16, Part II: This will be "The Eastern District of the Pacific Electric Railway," and will sell for one dollar. Orders will be accepted starting May 1, 1954.

Special 17: "Electric Railways of New Orleans." The complete histories and car rosters of New Orleans, from the days of the horse cars to the present. Ready late in 1954.

Special 18: "Los Angeles-Pacific Railroad."

If you have enjoyed "Electric Railways of Minneapolis-St. Paul" no doubt you will desire to read the other available issues of INTERURBANS. These are:

Special 5:	Denver & Interurban Railroad	\$1.00
Special 6:	Outstanding Interurban Cars	1.00
Special 7:	Pacific Northwest Traction Company50
Special 8:	S.P. Red Electrics of Portland, Oregon ...	1.00
Special 9:	Sacramento Northern Railway	2.00
Special 10:	News & Articles25
Special 11:	Los Angeles Railway, History	2.00
Special 12:	Los Angeles Railway, Roster of Cars	1.50
Special 13:	Pacific Electric Railway, Roster	1.00
Special 13:	Supplements 1, 2 and 3 (each)50
Special 15:	Interurbans of Utah (in preparation)	2.00
Special 16:	Part I: P.E. Ry., Northern District	1.00
INTERURBANS	(monthly) for 1946	1.50
INTERURBANS	(monthly) for 1947	2.00
INTERURBANS	(bi-monthly) for 1948	1.50